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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Ganapathy Krishnan Examiner #: 79271 Date: 7/29/02
 Art Unit: 1623 Phone Number 305-4837 Serial Number: 09856545
 Mail Box and Bldg/Room Location: 8D08 Results Format Preferred (circle): PAPER DISK E-MAIL
&B19

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Method for the production of low-viscous water soluble cellulose ethers.

Title of Invention: water soluble cellulose ethers.

Inventors (please provide full names): Hartwig Schlesiger

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search claims 1-13

LLS 5480984

Point of Contact:
 Beverly Shears
 Technical Info. Specialist
 CM1 1E05 Tel: 308-4994

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STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher:	<u>Beverly e4994</u>	NA Sequence (#)	STN
Searcher Phone #:		AA Sequence (#)	Dialog
Searcher Location:		Structure (#)	Questel/Orbit
Date Searcher Picked Up:		Bibliographic	Dr.Link
Date Completed:	<u>08-05-02</u>	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	<u>15</u>	Fulltext	Sequence Systems
Clerical Prep Time:		Patent Family	WWW/Internet
Online Time:	<u>55</u>	Other	Other (specify)

Krishnan
09/856545

09/856545

FILE REGISTRY ENTERED AT 11:56:25 ON 05 AUG 2002
E CARBOXYMETHYL CELLULOSE/CN 5

L1 2 S E3
E CARBOXYMETHYLCELLULOSE/CN 5
E HYDROXYETHYLCARBOXYMETHYL CELLULOSE/CN 5
E HYDROXYETHYLCARBOXYMETHYLCELLULOSE/CN 5
E HYDROXYETHYL CARBOXY METHYL CELLULOSE/CN 5
L2 1 S E4
E SULFOETHYL CELLULOSE/CN 5
L3 1 S E3
E SULFOETHYLCELLULOSE/CN 5
E SULPHOETHYL CELLULOSE/CN 5
E HYDROXYETHYL SULFOETHYL CELLULOSE/CN 5
E HYDROXYETHYLSULFOETHYLCELLULOSE/CN 5
E HYDROXYETHYLSULFO ETHYL CELLULOSE/CN 5
E HYDROXY ETHYLSULFOETHYL CELLULOSE/CN 5
E HYDROXYETHYL CELLULOSE/CN 5
L4 1 S E3
E METHYL CELLULOSE/CN 5
E METHYLCELLULOSE/CN 5
L5 1 S E3
E METHYLHYDROXYETHYL CELLULOSE/CN 5
E METHYLHYDROXYETHYLCELLULOSE/CN 5
E METHYL HYDROXYETHYL CELLULOSE/CN 5
L6 1 S E3
E METHYLHYDROXYETHYLSULFOETHYL CELLULOSE/CN 5
E METHYLHYDROXY ETHYLSULFOETHYL CELLULOSE/CN 5
E METHYL HYDROXYETHYLSULFOETHYL CELLULOSE/CN 5
L7 1 S E2
E METHYLHYDROXYPROPYL CELLULOSE/CN 5
E METHYL HYDROXYPROPYL CELLULOSE/CN 5
L8 1 S E3
E HYDROXYPROPYL CELLULOSE/CN 5
L9 1 S E3
L10 10 S L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9

=> e hydroxyethylsulfoethyl cellulose/cn 5

E1 1 HYDROXYETHYLOSMOCENE/CN
E2 1 HYDROXYETHYLPACHYMAN/CN
E3 0 --> HYDROXYETHYLSULFOETHYL CELLULOSE/CN
E4 1 HYDROXYETHYLTHEOBROMINE/CN
E5 1 HYDROXYETHYLTHEOPHYLLINE/CN

=> e hydroxyethylsulfoethylcellulose/cn 5

E1 1 HYDROXYETHYLOSMOCENE/CN
E2 1 HYDROXYETHYLPACHYMAN/CN
E3 0 --> HYDROXYETHYLSULFOETHYLCELLULOSE/CN
E4 1 HYDROXYETHYLTHEOBROMINE/CN
E5 1 HYDROXYETHYLTHEOPHYLLINE/CN

=> e hydroxyethyl sulfoethyl cellulose/cn 5

E1 1 HYDROXYETHYL STARCH LYSINE ESTER/CN
E2 1 HYDROXYETHYL STEARYL ETHER/CN
E3 0 --> HYDROXYETHYL SULFOETHYL CELLULOSE/CN
E4 1 HYDROXYETHYL TETRADECYL CELLULOSE/CN
E5 1 HYDROXYETHYL TETRAHYDROPYRANYL CELLULOSE/CN

=> e hydroxyethylsulfo ethyl cellulose/cn 5

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E1 1 HYDROXYETHYLOSMOCENE/CN
E2 1 HYDROXYETHYL PACHYMAN/CN
E3 0 --> HYDROXYETHYL SULFO ETHYL CELLULOSE/CN
E4 1 HYDROXYETHYL THEOBROMINE/CN
E5 1 HYDROXYETHYL THEOPHYLLINE/CN

L11 E HYDROGEN PEROXIDE/CN 5
7 S E3 OR E5-E7 OR E23 OR E24 OR E27

L23 1 S WATER/CN

FILE 'HCAPLUS' ENTERED AT 12:35:25 ON 05 AUG 2002

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON "CARBOXYMETHYL
CELLULOSE"/CN
L2 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYETHYL CARBOXYME
THYL CELLULOSE"/CN
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON "SULFOETHYL CELLULOSE"/
CN
L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYETHYL CELLULOSE
"/CN
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON METHYLCELLULOSE/CN
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYETHYL
CELLULOSE"/CN
L7 1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYETHYL
SULFOETHYL CELLULOSE"/CN
L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYPROPYL
CELLULOSE"/CN
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYPROPYL
CELLULOSE"/CN
L10 10 SEA FILE=REGISTRY ABB=ON PLU=ON L1 OR L2 OR L3 OR L4
OR L5 OR L6 OR L7 OR L8 OR L9
L11 7 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROGEN PEROXIDE"/CN
OR ("HYDROGEN PEROXIDE (D218O2)"/CN OR "HYDROGEN
PEROXIDE (D2018O)"/CN OR "HYDROGEN PEROXIDE (D2O2)"/CN)
OR "HYDROGEN PEROXIDE (H215O2)"/CN OR "HYDROGEN PEROXIDE
(H217O2)"/CN OR "HYDROGEN PEROXIDE (H218O2)"/CN
L12 162434 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 OR H2O2 OR (H OR H2
OR HYDROGEN) (W) (PEROXIDE OR O2)
L20 88949 SEA FILE=HCAPLUS ABB=ON PLU=ON (L10 OR ?CELLULOSE? OR
CM) (10A) (PROD? OR PREP? OR MANUF?)
L21 1465 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L12
L22 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND LOW VISC?

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON "CARBOXYMETHYL
CELLULOSE"/CN
L2 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYETHYL CARBOXYME
THYL CELLULOSE"/CN
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON "SULFOETHYL CELLULOSE"/
CN
L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYETHYL CELLULOSE
"/CN
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON METHYLCELLULOSE/CN
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYETHYL
CELLULOSE"/CN
L7 1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYETHYL

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L8 SULFOETHYL CELLULOSE"/CN
1 SEA FILE=REGISTRY ABB=ON PLU=ON "METHYL HYDROXYPROPYL
CELLULOSE"/CN
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROXYPROPYL
CELLULOSE"/CN
L10 10 SEA FILE=REGISTRY ABB=ON PLU=ON L1 OR L2 OR L3 OR L4
OR L5 OR L6 OR L7 OR L8 OR L9
L11 7 SEA FILE=REGISTRY ABB=ON PLU=ON "HYDROGEN PEROXIDE"/CN
OR ("HYDROGEN PEROXIDE (D218O2)"/CN OR "HYDROGEN
PEROXIDE (D2018O)"/CN OR "HYDROGEN PEROXIDE (D2O2)"/CN)
OR "HYDROGEN PEROXIDE (H215O2)"/CN OR "HYDROGEN PEROXIDE
(H217O2)"/CN OR "HYDROGEN PEROXIDE (H218O2)"/CN
L12 162434 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 OR H2O2 OR (H OR H2
OR HYDROGEN) (W) (PEROXIDE OR O2)
L20 88949 SEA FILE=HCAPLUS ABB=ON PLU=ON (L10 OR ?CELLULOSE? OR
CM) (10A) (PROD? OR PREP? OR MANUF?)
L21 1465 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L12
L23 1 SEA FILE=REGISTRY ABB=ON PLU=ON WATER/CN
L24 63 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND ((L23 OR H2O OR
WATER) (5A) (SOLUB? OR SOL))
L25 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND VISCOS?

L26 **L28 L22 OR L25**

L26 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:165778 HCAPLUS
DOCUMENT NUMBER: 134:209535
TITLE: Production by depolymerization, and
use, of low-viscosity
cellulose ethers flocculatable by hot
water
INVENTOR(S): Hammes, Alf
PATENT ASSIGNEE(S): Clariant G.m.b.H., Germany
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19941893	A1	20010308	DE 1999-19941893	19990903
WO 2001018062	A1	20010315	WO 2000-EP8538	20000901

W: JP, KR, MX, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE

PRIORITY APPLN. INFO.: DE 1999-19941893 A 19990903
AB The title ethers, with uniform d.p. and low contents of byproducts
and salts, are prep'd. by hydrolysis of concd. aq. slurries
of cellulose ethers at temps. above their flocculation
point. Adding 5 kg (bone-dry basis) Me hydroxypropyl cellulose (I)
(moisture content 39%, viscosity 340 mPa-s) to 14 kg boiling H2O
contg. 8% HCl, adding 1% (based on I) H2O2, and stirring
and boiling for 30 min gave I with whiteness 57%, viscosity 13.3
mPa-s, salt content 0.04%, and transmission by a 1.0% soln. 95 and
87% at 578 and 415 nm, resp.

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IT 9004-65-3, 2-Hydroxypropyl methyl cellulose
9004-67-5, Methyl cellulose 9032-42-2,
2-Hydroxyethyl methyl cellulose
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(prodn. by depolymn., and use, of low-
viscosity cellulose ethers flocculatable by hot
water)

L26 ANSWER 2 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:731548 HCPLUS
DOCUMENT NUMBER: 133:311051
TITLE: Process for manufacture of low
-viscosity carboxymethyl
cellulose sodium salt
INVENTOR(S): Sato, Keiichi; Furukawa, Masako
PATENT ASSIGNEE(S): Daiichi Kogyo Seiyaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000290301	A2	20001017	JP 1999-99585	19990407

AB The CM cellulose salt having the non-Newtonian
property is manufd. by oxidizing a solid CM
cellulose salt stock with H₂O₂ initially at a pH
<7.0, then adding alkali in the mid way of reaction to a pH >7.0.
IT 7722-84-1, Hydrogen peroxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(oxidant; process for manuf. of low-
viscosity CM-cellulose sodium salt)
IT 9004-32-4, Carboxymethyl cellulose sodium salt
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PROC (Process)
(process for manuf. of low-viscosity
CM-cellulose sodium salt)

L26 ANSWER 3 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:366078 HCPLUS
DOCUMENT NUMBER: 133:18994
TITLE: Manufacture of low-
viscosity, water-
soluble cellulose ethers by
oxidative degradation of high-viscosity
precursors
INVENTOR(S): Schlesinger, Hartwig
PATENT ASSIGNEE(S): Wolff Walsrode A.-G., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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Searcher : Shears 308-4994

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DE 19854770 A1 20000531 DE 1998-19854770 19981127
WO 2000032636 A1 20000608 WO 1999-EP8779 19991115
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
BR 9915690 A 20011113 BR 1999-15690 19991115
EP 1153040 A1 20011114 EP 1999-957311 19991115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO
NO 2001002577 A 20010525 NO 2001-2577 20010525
PRIORITY APPLN. INFO.: DE 1998-19854770 A 19981127
WO 1999-EP8779 W 19991115

AB High-viscosity cellulose ethers, e.g., Me hydroxyethyl cellulose, are stirred at 65-125.degree. with aq. H₂O₂ solns. till .gtoreq.90% consumption of H₂O₂. The solid content in the reaction mixt. is .ltoreq.25%. The products can be subjected to subsequent processing, i.e., drying, grinding, compounding, etc., without further degrdn.

IT 9032-42-2DP, Methyl hydroxyethyl cellulose, oxidatively degraded

RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of low-viscosity,
water-sol. cellulose ethers by
oxidative degrdn. of high-viscosity precursors)

IT 7722-84-1, Hydrogen peroxide, uses

RL: NUU (Other use, unclassified); USES (Uses)

(manuf. of low-viscosity,
water-sol. cellulose ethers by
oxidative degrdn. of high-viscosity precursors)

L26 ANSWER 4 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:621246 HCPLUS

DOCUMENT NUMBER: 129:246823

TITLE: Preparation of high-quality corn fiber
gum by removing hemicellulose A and
treating with hydrogen
peroxide

INVENTOR(S): Doner, Landis W.; Sweeney, Gregory A.; Hicks,
Kevin B.

PATENT ASSIGNEE(S): National Starch and Chemical Investment Holding
Corp., USA; United States Dept. of Agriculture

SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9840413	A1	19980917	WO 1998-US5551	19980313

↙

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W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP,
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ,
MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9865752 A1 19980929 AU 1998-65752 19980313

AU 736709 B2 20010802

EP 1007572 A1 20000614 EP 1998-911904 19980313

R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, FI

JP 2000509760 T2 20000802 JP 1998-539910 19980313

US 6147206 A 20001114 US 1998-39153 19980313

PRIORITY APPLN. INFO.: US 1997-818187 A 19970314
US 1998-39153 A 19980313
WO 1998-US5551 W 19980313

AB High quality corn fiber gum (**hemicellulose** B) is produced in high yield by **hydrogen peroxide** treatment of corn fiber during alk. extn. and/or after obtaining the alk. ext. of milled corn fiber. This process comprises (a) mixing corn fiber with an alk. soln. to form a slurry and ext. hemicellulose; (b) treating the slurry with **hydrogen peroxide** at a pH of .apprx.10.0-12.5; and (c) sepg. out the insol. fractions from the corn fiber slurry to yield **water-sol.** corn fiber gum. The corn fiber gum lacks objectionable flavor and aroma and forms low **viscosity** solns. which are nearly devoid of color over a wide pH range. The corn fiber gum is useful for a variety of applications, including film formation and to thicken, emulsify, stabilize and/or extend aq. solns. and suspensions (no data).

IT 7722-84-1, **Hydrogen peroxide**, uses

RL: NUU (Other use, unclassified); USES (Uses)
(**prep'n.** of high-quality corn fiber gum by removing **hemicellulose** A and treating with **hydrogen peroxide**)

L26 ANSWER 5 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:765371 HCPLUS

DOCUMENT NUMBER: 128:14285

TITLE: Manufacture of cellulosic aqueous compositions using bleaches

INVENTOR(S): Fukudome, Kazuhiro

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09309972	A2	19971202	JP 1996-128214	19960523

AB In the process, nitrates of carboxyalkyl cellulose having substitution degree of nitrates and carboxyalkyl ethers per 1 anhyd. glucose unit .gt;eq.0.2 and .gt;eq.0.05, resp. are dissolved in

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water-org. solvent mixts. with neutralizing agents and oxidative bleaches. Thus, 100 g CM cellulose (CM substitution 0.7) was nitrified in 60.1:21.7:18.2 a mixt. of H₂SO₄, HNO₃, and H₂O to give a CM-cellulose nitrate having carboxyl substitution 0.7 and nitrate substitution 1.3, 10 g of which was mixed in a mixt. of water and isopropanol, stirred with Et₃N, and further stirred with H₂O₂ to give a 10%-solid soln having viscosity 15 mPa-s and Gardner color no. 1toreq.1.

- IT 7722-84-1, Hydrogen peroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(manuf. of aq. compns. of carboxyalkyl cellulose nitrates using oxidative bleaches)

L26 ANSWER 6 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:318726 HCPLUS

DOCUMENT NUMBER: 125:36153

TITLE: Manufacture of highly dielectric cellulose derivatives with low viscosity

INVENTOR(S): Fukui, Ikuo; Nagura, Shigehiro

PATENT ASSIGNEE(S): Shinetsu Chem Ind Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08048701	A2	19960220	JP 1994-201401	19940803

AB Powd. highly dielec. cellulose derivs. are swelled in solns. or dispersions contg. (a) FeSO₄ (I), Co oxide, and/or alumina and (b) 4 Na EDTA (II), 2 Na EDTA, nitrirotriacetic acid, trans-cyclohexanediaminetetraacetic acid, diethylenetriaminepentaacetic acid, ethylene glycol bis(ether) diamine tetraacetic acid, and/or triethylenetetraminehexaacetic acid in aq. water-miscible org. solvents, added with an org. solvent-water soln. contg. H₂O₂, and depolymd. by heating. Thus, 1.0% carboxymethyl cyanoethyl cellulose [prepd. from 100 g Cellogen 5A and 790 g acrylonitrile showing viscosity in DMF (.eta.) 14.7 P] in 80% aq. isopropanol was mixed with 1.0% I and 1.5% II, added with H₂O₂ soln., and heated at 50.degree. for 3 h to give depolymd. product showing .eta. 7.3 P.

- IT 7722-84-1, Hydrogen peroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(lowering of viscosity of highly dielec. cellulose derivs. by depolymn.)

L26 ANSWER 7 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:316426 HCPLUS

DOCUMENT NUMBER: 122:266351

TITLE: Biodegradable water-soluble

INVENTOR(S): polymers, their manufacture, and their uses Yamaguchi, Shigeru; Fujii, Giichi; Tsuboi, Hiroshi

PATENT ASSIGNEE(S): Nippon Catalytic Chem Ind, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

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CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 06298866	A2	19941025	JP 1993-89012	19930416
AB	Radical polymn. of 40-90 mol% neutralized water-sol. ethylenically unsatd. monomers contg. 95-100% maleic acid (salts) with .gtoreq.1 sugars chosen from monosaccharides, oligosaccharides, and their derivs. using H2O2 as a catalyst gives the title polymers, in which .gtoreq.1 terminal C of the vinyl polymer units are linked with methylol C of the sugar units. Detergent compns. contg. the polymers and surfactants, fiber-treating agents contg. the polymers and dyes, peroxides, and/or surfactants, inorg. pigment dispersants contg. the polymers, and water-treating agents contg. the polymers are also claimed. Thus, a mixt. of 196 parts maleic anhydride, H2O, ferric ammonium sulfate, and 49 parts sucrose was neutralized with aq. NaOH and polymd. with H2O2 under reflux for 4 h to give a water-sol. polymer having mol. wt. 970, viscosity (25.degree.) 30 cP, chelating ability 230 mg CaCO3/g, and biodegradability 48%, which was used as an adjuvant in dyeing of cotton twill by Kayarus Supra Blue 4BL.				
IT	7722-84-1, Hydrogen peroxide, uses				

RL: CAT (Catalyst use); USES (Uses)

(prepn. of sugar-terminated polymaleates by radical polymn. with H2O2 catalyst)

L26 ANSWER 8 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1993:583129 HCPLUS

DOCUMENT NUMBER: 119:183129

TITLE: Increased selectivity and efficiency in oxygen bleaching using methanol

AUTHOR(S): Colodette, Jorge L.; de Souza, Claudio B.; Mounteer, Ann H.; Campos, Ana S.

CORPORATE SOURCE: Brazil

SOURCE: Papel (1993), 54(4), 26-36

CODEN: PAPLA3; ISSN: 0031-1057

DOCUMENT TYPE: Journal

LANGUAGE: Portuguese

AB Kraft/MeOH, conventional Kraft, and O-MeOH-Kraft pulping and semi-bleaching and full bleaching cycles were compared. The addn. of MeOH did not improve delignification or selectivity under normal conditions but enhanced carbohydrate degrdn. and delignification rate when the residence time was extended. The sulfide level of Kraft pulps decreased significantly when MeOH was used; the pulp had low kappa no. but low viscosity. The selectivity in O delignification improved in the presence of MeOH or EtOH and the process was carried out at 120.degree., for a decrease of the kappa no. of .apprx.10%. Chelating agent Na DTPA (diethylenetriamine pentaacetic acid) or H2SO4 treatments were required prior to bleaching. In bleaching with Cl-free agents, the Kraft/MeOH pulp did not attain the expected whiteness due to irreversible alk. darkening during pulping. For the same treatment, the conventional Kraft pulp whiteness was 83.7%, and the

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O-MeOH-Kraft pulp whiteness was 84.9%; these were improved when small amts. of ClO₂ were added to the process. The wastewater and other residues from the processes contained less pollutant levels than those from conventional pulping and bleaching.

IT 7722-84-1, **Hydrogen peroxide,**
miscellaneous
RL: MSC (Miscellaneous)
(bleaching agent, for Kraft and methanol-Kraft and oxygen-methanol-Kraft pulps, in chlorine-free treatment)

L26 ANSWER 9 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:216632 HCPLUS
DOCUMENT NUMBER: 116:216632
TITLE: Ultra-low-viscosity
carboxymethyl cellulose sodium salt
INVENTOR(S): Nakamura, Hiroyuki; Morita, Tetsuo
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan;
Nichirin Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04025502	A2	19920129	JP 1990-130475	19900521
JP 2800062	B2	19980921		

AB The Newtonian fluid-like title compd. (I) has substitution degree (DS) .gtoreq.1.0, 30%-aq.-soln. Brookfield apparent viscosity (V; at 25.degree., spindle rate 60 rpm) .ltoreq.500 cP, and ratio (R) of V at spindle rate of 60 and 6 rpm .gtoreq.0.7. Thus, spraying 100 parts I with DS 1.2 and 2%-aq.-soln. viscosity 330 cP with 15 parts 35% H₂O₂, heating 8 h at 80.degree., cooling to room temp., spraying with 10 parts 35% H₂O₂ soln., and heating 8 h at 80.degree. gave I having 30%-aq.-soln. V 340 cP, and R 0.88.

IT 9004-32-4P, CMC sodium salt
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of ultra-low-viscosity)

IT 7722-84-1, **Hydrogen peroxide,** uses
RL: USES (Uses)
(treating of CMC salt by, in manuf. of ultralow-viscosity product)

L26 ANSWER 10 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:216631 HCPLUS
DOCUMENT NUMBER: 116:216631
TITLE: Manufacture of ultra-low-viscosity carboxymethyl cellulose sodium salt
INVENTOR(S): Nakamura, Hiroyuki; Morita, Tetsuo
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan;
Nichirin Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

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FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 04025501	A2	19920129	JP 1990-130474	19900521
	JP 2800061	B2	19980921		
AB	The title Newtonian fluidlike compd. is manufd. by mixing while heating a Na CMC in its solid state with H ₂ O ₂ at pH 6.5-3.0. Thus, blending 1.5 kg Na CMC having degree of substitution 1.56 and 2% aq.-soln. viscosity 200 cP at AcOH-adjusted pH of 6.2-5.5, moisture content 14.0-4.6%, and 70-80.degree. with 200 mL 35% H ₂ O ₂ in 3 portions gave products with viscosities 8.7, 35.6, and 215 cP as 10, 20, and 30% aq. soln., resp.				
IT	7722-84-1, Hydrogen peroxide, reactions				
	RL: RCT (Reactant)				
	(degrdn. of CMC sodium-salt by, for ultra-low viscosity)				
IT	9004-32-4P, CMC sodium salt				
	RL: IMF (Industrial manufacture); PREP (Preparation)				
	(prepn. of ultralow-viscosity)				

L26 ANSWER 11 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:108671 HCPLUS
DOCUMENT NUMBER: 116:108671
TITLE: High-solids low-viscosity polysaccharide compositions obtained by using hydrogen peroxide oxidant as molecular weight controlling agent
INVENTOR(S): Angerer, J. David; Modi, Jashawant Jamanadas; Szafranski, Robert C.
PATENT ASSIGNEE(S): Aqualon Co., USA
SOURCE: Eur. Pat. Appl., 7 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	EP 465992	A1	19920115	EP 1991-110943	19910702
	EP 465992	B1	19980617		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	CA 2046089	AA	19920103	CA 1991-2046089	19910702
	JP 04306245	A2	19921029	JP 1991-161867	19910702
	JP 08009680	B4	19960131		
	AT 167488	E	19980715	AT 1991-110943	19910702
	AU 9180231	A1	19920116	AU 1991-80231	19910705
	AU 650273	B2	19940616		
	US 5480984	A	19960102	US 1992-834163	19920211
	US 6054511	A	20000425	US 1993-6025	19930115
	PRIORITY APPLN. INFO.:			US 1990-546866	19900702
AB	Aq. polysaccharide compns., contg. .gtoreq.1 compds. selected from CMC, guar, hydroxyethylcellulose, and its hydrophobically-modified products, show solids content (C) .gtoreq.5%, and viscosity at 25.degree. (.eta.) .ltoreq.9500 mPa.s. Thus, adding 3.5 kg 50% H ₂ O ₂ then 68 kg CMC over 45 min to				

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545 kg water at 80.degree. and 130 rpm, mixing for 75 min, repeating the addn. for addnl. 3 times until a .eta. of .ltoreq.2000 mPa.s achieved, adding a preservative at the completion of treatment, cooling and filtering gave a product with Brookfield .eta. 1050 mPa.s, C 31.1% and residual H₂O₂ .ltoreq.20 ppm.

IT 7722-84-1, Hydrogen peroxide (

H₂O₂), uses

RL: USES (Uses)

(oxidant, for controlling mol. wt. of polysaccharides)

IT 9004-30-2P, Carboxymethylhydroxyethylcellulose

9004-32-4DP, cationic or hydrophobically-modified derivs.

9004-32-4P, Sodium CM cellulose

9004-62-0DP, Hydroxyethylcellulose,

hydrophobically-modified products 9004-62-0P,

Hydroxyethylcellulose 9004-64-2DP, Hydroxypropyl cellulose, cationic or hydrophobically-modified derivs.

9004-64-2P, Hydroxypropyl cellulose

9004-65-3DP, Methylhydroxypropyl cellulose, cationic or hydrophobically-modified derivs. 9004-65-3P,

Methylhydroxypropylcellulose 9004-67-5DP,

Methylcellulose, cationic or hydrophobically-modified derivs. 9004-67-5P, Methyl cellulose

9032-42-2DP, Methylhydroxyethyl cellulose,

cationic or hydrophobically-modified derivs. 9032-42-2P,

Methylhydroxyethylcellulose

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(prepn. of low-viscosity and
high-solids, hydrogen peroxide as degrdn.
agent for)

L26 ANSWER 12 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:96499 HCPLUS

DOCUMENT NUMBER: 110:96499

TITLE: Small particle size non-surface active protective colloid-stabilized acrylate latexes derived from monomers of high aqueous phase grafting tendencies

INVENTOR(S): Craig, Daniel Horace

PATENT ASSIGNEE(S): Hercules Inc., USA

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 290772	A2	19881117	EP 1988-105215	19880330
EP 290772	A3	19891220		
EP 290772	B1	19931124		
R: CH, DE, FR, GB, IT, LI, NL				
US 4801643	A	19890131	US 1987-32280	19870330
CA 1324455	A1	19931116	CA 1988-562486	19880325
AU 8813826	A1	19880929	AU 1988-13826	19880329
AU 604864	B2	19910103		
JP 63264604	A2	19881101	JP 1988-77972	19880330

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JP 01249814 A2 19891005 JP 1988-77971 19880330
PRIORITY APPLN. INFO.: US 1987-32280 19870330

AB Latexes have little tendency to agglomerate are mech. stable and useful in manuf. of paints, binders for nonwovens, inks, paper coatings, and water-borne adhesives (no data) and are prep'd. by polymn. of (meth)acrylic acid esters in water in the presence of protective colloids (PC) contg. 0.05-5% non-surface active PC and a peroxide-0.01-0.05% water-sol. peroxide mixt.

Polymn. of 44 parts monomers contg. Bu acrylate 42.7, Me methacrylate 56.8, and methacrylic acid 0.5% at 85.degree. for 1 h, after monomer addn. over 3 h period, in the presence of 0.035 part K2S2O8, 6 parts 1% 4,4'-azobis(4-cyanovaleric acid) di-K, 0.2 part hydroxyethylcellulose, and 1.15 part nonylphenol ethoxylate mixed phosphate ester gave a latex having solids content 48%, Brookfield viscosity (25.degree.) 120 cP, particle size 0.16 .mu.m, and particle size after 10 min high shear 0.20 .mu.m, vs. 32, >20,000, >4.0, and no value, resp., using 2% K2S2O8 as the only initiator.

IT 7722-84-1P, Hydrogen peroxide,
preparation

RL: PREP (Preparation)
(initiator, with azo compd. or water-insol. peroxide, in manuf.
of small particle size latex)

IT 9004-30-2, Carboxymethylhydroxyethyl cellulose
9004-32-4, Carboxymethylcellulose
9004-62-0, Hydroxyethyl cellulose

RL: USES (Uses)
(protective colloid, for manuf. of small particle size
latex dispersions)

L26 ANSWER 13 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:517340 HCPLUS
DOCUMENT NUMBER: 95:117340
TITLE: Silicon-modified carboxymethylcellulose
INVENTOR(S): Karlsson, A. H.
PATENT ASSIGNEE(S): SCA Development AB, Swed.
SOURCE: Swed., 6 pp.
CODEN: SSXXAY
DOCUMENT TYPE: Patent
LANGUAGE: Swedish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SE 416954	B	19810216	SE 1975-12664	19751111
SE 416954	C	19810702		

AB Silicon-modified cellulose derivs. readily sol. in water and useful as reinforcing agents, in corrugated cardboard, in wallpaper pastes, etc. are manufd. by heating 1 mol cellulose, preferably alkali cellulose (I), with 0.5-1 mol of a silicate, preferably Na metasilicate (II), Na monochloroacetate (III), H₂O₂, and an Fe²⁺ catalyst. Thus, I, II, III, H₂O₂, and a FeCl₂ soln. were heated to give a silicon-modified product with degree of substitution 0.27-0.34, viscosity (2% soln.) 60-330 cP, pH 7.1-7.9, and SiO₂ content 20.5-20.9%.

IT 7722-84-1, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)

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(catalysts, in manuf. of silicon-modified CM-cellulose)

IT 9004-32-4DP, silicon derivs.

RL: PREP (Preparation)

(manuf. of, from alkali cellulose, Na chloroacetate and Na metasilicate)

L26 ANSWER 14 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1981:463856 HCPLUS

DOCUMENT NUMBER: 95:63856

TITLE: Ultra-low viscosity

nitrocellulose compositions for polyurethane coatings

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56016535	A2	19810217	JP 1979-91629	19790720

AB Ultra-low viscosity nitrocellulose (I)

dopes for polyurethane coatings were prep'd. by depolymn. and contained solvents inert to isocyanates. For example, 200 g I (viscosity H1/4, isopropanol content 30%) was dissolved in 360 g BuOAc, treated with 40 g 35% H2O2 at 95.degree. for 3 h, and concd. in vacuo to give a 40%-solids dope (water content 0.14%) free from isopropanol. The dope formed a film with viscosity (J15 K 6703) < H1/16 and d.p. 10. A mixt. of 27.3 parts Acrydic A801 (acrylic polyol) and 15.6 parts Coronate L was adjusted with 15:37:38:10 MEK-BuOAc-PhMe-HOCH2CH2OAc to 30% solids content and mixed with 10 parts of the above dope and then a hardener to give a compn. forming a coating with viscosity (25.degree.) 20 cP, tack-free time 530 s, and pencil hardness (after 3 h cure) 2B, compared with 39, 525, and 2B, resp., for a control contg. I without depolymn. and 12, 880, and 5B, resp., for a control contg. no I.

IT 7722-84-1, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalysts, for depolymn. of nitrocellulose)

L26 ANSWER 15 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1981:17348 HCPLUS

DOCUMENT NUMBER: 94:17348

TITLE: Mercerization of carboxymethylcellulose

PATENT ASSIGNEE(S): Kohjin Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55110102	A2	19800825	JP 1979-16100	19790216

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JP 59028321	B4	19840712		
JP 54108199	A2	19790824	JP 1978-16114	19780215
US 4250305	A	19810210	US 1979-67667	19790820
PRIORITY APPLN. INFO.:			JP 1978-106312	19780901
			JP 1978-16114	19781228
			JP 1979-15487	19790215
			JP 1979-16100	19790216

AB Homogeneous, low-viscosity, soft, powd. Na CM-cellulose (I) [9004-32-4] is prep'd. rapidly by adding H₂O₂ to I in 30-70% NaOH at 10-60.degree.. Thus, 208.3 g I (viscosity 90 cP) in 540 g 48% NaOH is mixed with 5.7 g 35% H₂O₂ and held at <48.degree. for 1 h to give I with viscosity 7 cP, compared with 62 when mercerized without H₂O₂.
IT 7722-84-1, uses and miscellaneous
RL: USES (Uses)
(in mercerization of CM-cellulose)

L26 ANSWER 16 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1970:426833 HCPLUS
DOCUMENT NUMBER: 73:26833
TITLE: Hydroxypropyl cellulose
INVENTOR(S): Miura, Kazuo; Sekigawa, Hichitaro; Mishizawa, Kyusaku; Nishimura, Kazuo
PATENT ASSIGNEE(S): Japan Soda Co., Ltd.
SOURCE: Jpn. Tokyo Koho, 4 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 45009398	B4	19700404	JP	19660722

AB Alkali cellulose (I) and propylene oxide (II) react at 50-100.degree.. The neutralized product reacts further at the same temp. with II, is adjusted to pH 8-10, and is purified to give hydroxypropyl cellulose (III), which is sol. in H₂O and org. solvents and useful for making films, capsules, coatings, emulsifiers, thickeners, protective colloids, adhesives, etc. For example, 100 wt. parts by wt. dissolved pulp was dipped 30 min at 20-30.degree. in 19% NaOH, squeezed, crushed, and aged 48 hr at 40-5.degree. in air. I (260 parts by wt.) was charged into a kneader-type reactor (2-l. capacity), mixed with 30 wt. parts tetrahydrofuran and 337 wt. parts II, reacted for 2 hr at 60-5.degree. with stirring, neutralized (80% of the alkali content) with HOAc, mixed with 113 wt. parts II, and reacted 5 hr at 60-65.degree. with stirring. The reaction product was dissolved in H₂O, adjusted to pH 9 with HOAc, the soln. heated at 80.degree., decanted, and the gel obtained mixed with 14 g 30% aq. H₂O₂ soln., mixed with H₂O at 85.degree., scoured to remove H₂O, dried at 80.degree. in vacuo, and crushed to give III, which gives a 2% aq. soln. with 2 cP viscosity at 20.degree., pH 6.0, and <0.4% (as Na₂SO₄) ash content.

L26 ANSWER 17 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1968:41239 HCPLUS

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DOCUMENT NUMBER: 68:41239
TITLE: Thioated cellulosic-amylaceous substrate-ethylen-cally unsaturated monomer graft copolymer
INVENTOR(S): Faessinger, Robert W.; Conte, John S.
PATENT ASSIGNEE(S): Scott Paper Co.
SOURCE: U.S., 21 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3359224		19671219	US	19661207

AB A water-insol., cellulosic or amylaceous monothiocarbonate or dithiocarbonate polymeric substrate is treated via peroxidic free radical initiated graft polymn., with an ethylenically unsatd. monomer to produce a graft copolymer. Typically, 10 parts of dry, defibered, bleached southern pine sulfate pulp was treated with 0.25M Na silicate soln. to cover the pulp, the mix was kept at room temp. 0.25 hr., then filtered to such a dryness that the alk. wet pulp retained 100% of its wt. of Na silicate soln. The cellulose pad was crumbled and evacuated over CS₂, after 2 hrs., the dithiocarbonated pulp crumbles were washed with 300-50 parts water to remove all sol. products, the dithiocarbonated pulp was uniformly dispersed in a previously prep'd. emulsion consisting of styrene 9, acrylonitrile 1, water 300, Tween-85 (a poly(oxyethylene) sorbitan trioleate) 1.0, and 30% H₂O₂ 2.5 parts. The mixt. was kept at room temp. for 24 hrs., the pulp was removed from the polymn. mixt., thoroughly washed with water, and a product weighing 17.85 parts (89.6% theory) was obtained. Prolonged extn. of the material with trichloroethylene indicated that 69.2% of the monomer which was converted to the polymer could not be extd. Similarly, 10 parts of dry defibered bleached southern pine sulfate pulp was defibered and treated with the monomers to give [alk. salt, concn. of alk. soln., % yield, % nonextractable polymer given]: NaOH, 0.5M, 84.3, 44.2; Na₂S, 0.25M, 88.5, 50.5; NaCN, 0.25M, 79.0, 78.4; Na₂O₂.AlO₂, 0.25M, 87.3, 78.0; Na₂CO₃, 0.25M, 75.0, 68.5; (NH₄)₂S, 0.25M, 62.5, 86.1. Alternatively, 10 parts dry bleached pine sulfate pulp was defibered in sufficient 1% NaOH and filtered to a retention of 100% alkali soln. The alkali cellulose was then thiocarbonated over CS₂, the resulting Na cellulose anhydroglucose monothiocarbonate was washed well with 300 parts water, then with 25 parts 0.25M Pb(OAc)₂ dild. with 75 parts water, the lead cellulose anhydroglucose monothiocarbonate pulp was washed with 150 parts water, then uniformly dispersed in an emulsion contg. water 300, styrene 9, acrylonitrile 1, Tween 85 0.5, and 30% H₂O₂ 3 parts. The mixt. was kept at room temp. for 24 hrs., the pulp was removed from the polymn. medium, thoroughly washed with water, and dried to yield 16.7 parts (83.5%) pulp. Repeated extns. with trichloroethylene indicated that 90.3% of the monomer converted to the polymer was unextractable. Also, an aged viscose dope soln., contg. 6.5% cellulose, was pumped through a spinneret and through a 2-ft. long coagulating bath of 10% H₂SO₄, 13% Na₂SO₄, 1% glucose, and 1% ZnSO₄. On emergence from the coagulating bath, the filaments fell

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into an aq. bath consisting of a satd. soln. Na₂CO₃; the fibers were kept in the Na₂CO₃ 15 min. to give 1.5 parts thiocarbonate contg. regenerated cellulose. The thiocarbonate was suspended in the emulsion contg. Et acrylate 9.3, Tween 85 0.5, water 40, and 30% H₂O₂ 3.0 parts, the mixt. was kept at room temp. for 18 hrs., the copolymerd. regenerated cellulose was removed from the polymn. mixt., washed throughly with water, and gave a product after oven drying weighing 8.2 parts (72.5% conversion), which upon prolonged extn. with acetone indicated that 65.0% of the polymer was nonexchangeable. Similarly, 25 parts of a viscose dope soln. was poured into a container contg. 6.0 parts H₂SO₄ and 300 parts satd. Na₂SO₄, the regenerated cellulose was filtered and washed throughly with water to remove all sol. by-products, immediately after washing, 100 parts of 0.06M Ca(NO₃)₂ was passed over and through the Na thiocarbonate contg. regenerated cellulose to form its Ca deriv. by metathesis, the Ca contg. product was washed with water, and was added to an emulsion prep. from Et acrylate 9.3, water 50, Tween 85 0.5, and 30% H₂O₂ 3.0 parts, the mixt. was kept at room temp. for 18 hrs., the regenerated cellulose copolymer was washed with water and dried to give 9.6 parts copolymer (86.5% conversion), which on prolonged extn. in acetone showed that 80.5% of the copolymer was unextractable. Similarly, various salts were used in the metathesis reaction to form the various derivs., including as cation, ferrous, Pb, Al, Mg, or Zn salts. Monomers similarly used were Bu acrylate, glycidyl acrylate, 2-cyanoethyl acrylate, methacrylic acid, methacrylamide, Me methacrylate, Et methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, glycidyl methacrylate, vinylidene chloride, Na p-styrenesulfonate, N,N-dimethylaminoethyl acrylate, 2-ethylhexyl acrylate, vinyl chloride, vinyl acetate, isoprene, styrene, and vinyltoluene. Similarly converted cellulosic materials contain potato starch.

IT 7722-84-1, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(catalysts, for graft polymn. of cellulose xanthate salts and starch xanthate salts with vinyl compds.)

L26 ANSWER 18 OF 28 HCPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:19266 HCPLUS
DOCUMENT NUMBER: 66:19266
TITLE: Copolymers of ethylenic unsaturated monomers and regenerated cellulose
PATENT ASSIGNEE(S): Scott Paper Co.
SOURCE: Neth. Appl., 24 pp.
CODEN: NAXXAN
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6514877		19660816		

PRIORITY APPLN. INFO.: US 19650215

AB Viscose dopes are coagulated partially in an acidic soln. so that some thiocarbamate (I) groups are retained by adjusting the retention time and acid value of the bath. The coagulated cellulose (II) is washed with an alkali soln. and treated with a H₂O

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-sol. salt contg. metals of Groups IB, IIA, IIB, IIIA, IIIB, IVB, VB, VIB, VIIIB, and VIII or Ge, Sn, Pb, or Bi. The coagulated II contg. I groups as alkali metal salts is copolymerized with ethylenic unsatd. compds. (III) in the presence of a peroxide initiator for the free-radical polymerization, H₂O, an emulsifier, and a moistener, while the I groups from redox coupling with the initiator. The II-III copolymers obtained are finally desulfurized. The III used in the examples are styrene (IV), acrylonitrile (V), Et acrylate, and Me acrylate. For example, viscose contg. 6.5% cellulose was extruded at 0.0016 g./sec. through a spinning head with 150 holes of 0.1-mm. diam. in a coagulation bath 60 cm. long consisting of H₂SO₄ 13, Na₂SO₄ 13, glucose 1, and ZnSO₄ 1% and the coagulated rayon derivatives were dipped in a water bath contg. a satd. Na₂CO₃ soln. After 15 min. cellulose regeneration in the water bath, 1.5 parts coagulated filaments were filtered and scoured by 200-300 parts H₂O to remove all sol. by-products. After scouring, the regenerated II contg. the residual I groups was suspended in an emulsion consisting of IV 7.5, V 1.5, H₂O 50, Tween-85 (polyoxyethylene sorbitan trioleate) 2.0 and 30% H₂O₂ 3.0 parts by wt. After 18 hrs. at room temp., the filaments were removed from the reaction medium, scoured thoroughly by H₂O, and dried to give 7.8 parts (69% conversion of monomers into polymer) II-IV-V copolymer. The copolymer retained 82.5% of the converted monomers after long extn. by trichloroethane. Fibers, yarns, and (or) cords prep'd. from the copolymers are useful as ion-exchanging materials and reinforcing agents with improved affinity for natural and synthetic hydrophobic polymers, such as rubber, polystyrene, polystyrene, polyethylene, or poly(vinyl chloride).

L26 ANSWER 19 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1966:466438 HCPLUS
DOCUMENT NUMBER: 65:66438
ORIGINAL REFERENCE NO.: 65:12407c-f
TITLE: Alkali metal salts of carboxymethyl cellulose
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
SOURCE: 8 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 65012687	-----	19660331	NL	-----
PRIORITY APPLN. INFO.:		US		19640930
AB	Dense, granular alkali metal salts of carboxymethyl cellulose are prep'd. by etherflying alkali cellulose with ClCH ₂ COH (I) in a 3-component 2phase liquid reaction medium in which one phase comprises a mixt. of water and a H ₂ O-miscible aliphatic alc. and the 2nd an inert H ₂ O-immiscible org. liquid hydrocarbon and an addnl. amt. of H ₂ O-miscible aliphatic alc., the ratio of total liquid by wt. in the medium to dry cellulose being >4:1 and <20:1, the ratio of H ₂ O by wt. in the H ₂ O-alc. phase to dry cellulose at the beginning of the reaction being 0.03:1-3.4:1, the total amt. of alc. in the reaction medium being >7% by wt. the total wt. of the liquid in the mixt. at the start of the reaction; and after substantial completion of			

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etherification addg. to the reaction medium 0.1-3 part H₂O per part cellulose for >3 min. and deliquefying the carboxymethyl cellulose. For example, 60-mesh (0.26mm.) purified wood pulp (600 d.p., 4.2% H₂O) 62.5 is added to 92.4% EtOH 278 and C₆H₆ 361 parts in a mixer, and agitation commenced; 59.3 parts 53% NaOH is added during 1 min. and the mixt. steeped 30 min. at 30.degree.. I (31.5 parts) is then added at 35.degree., the soln. mixed 10 min., and the mixt heated 40 min. to 63.degree.; 35% H₂O₂ (1.1 part) is added and agitation continued 20 min. at 63.degree.; 60 parts H₂O is then added during 10 min. while agitating and maintaining the temp. at 63.degree., and the excess caustic neutralized with HOAc to give a product, with a D.E. (degree of etherification) 0.70. Based on a T.D.E. (theoretical degree of etherification) of 0.9, the reaction efficiency of the process is 78%. The **solv.** of the product in H₂O is excellent; a 2% soln. has a **viscosity** of 45 cp. The d. of the granular product is 0.79.

L26 ANSWER 20 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1963:67128 HCPLUS

DOCUMENT NUMBER: 58:67128

ORIGINAL REFERENCE NO.: 58:11532e-g

TITLE: Lowering the **viscosity** of dispersions of polyvinyl esters or vinyl ester copolymers

INVENTOR(S): Staller, Anton; Kahrs, Karl H.; Kuehlkampf, Alfred

PATENT ASSIGNEE(S): Farbwerte Hoechst A.-G.

SOURCE: 4 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1141448		19621220	DE	19570109

AB Poly (vinyl ester) dispersions in H₂O, such as dispersions of poly(vinyl acetate) or copolymers of vinyl acetate contg. 50-60% solids, can be prep'd. by using H₂O-sol . cellulose derivs. as protective colloids, as described in Ger. 1,029,565 (CA 54, 16920e). These dispersions have a high **viscosity**. By adding 0.1-0.7% of 30% H₂O₂ at 40-100.degree., the **viscosity** can be decreased to about 1% of the original value. A still lower **viscosity** can be obtained by adding very small amts. of salts, and by lowering the pH of the dispersion by adding small amts. of acids. The presence of plasticizers does not interfere with the action of the H₂O₂ . Such a dispersion of poly(vinyl acetate) of 56% solids, contg. 1.5% oxyethyl cellulose, is mixed with 0.5% of 35% H₂O₂ and slowly agitated at 80.degree. for 4 hrs. The **viscosity** of the dispersion at 20.degree. is 3.6 vs. 210 poises originally. If 20% di-Bu phthalate is added to the poly(vinyl acetate) and the dispersion is treated as described above, the **viscosity** is lowered from 740 to 15 poises.

L26 ANSWER 21 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1962:404904 HCPLUS

DOCUMENT NUMBER: 57:4904

ORIGINAL REFERENCE NO.: 57:1080b-e

TITLE: Vinyl chloride polymer and copolymer emulsions

09/856545

INVENTOR(S): Kuehne, Gerhard
PATENT ASSIGNEE(S): Farbwurke Hoechst A.-G.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1119513			DE	19590509
GB 952628			GB	
US 3208965		1965	US	

AB Stable low-viscosity latexes with 45% solids are prep'd, by continuous emulsion polymerization, with an av. particle size of 0.5(1.8 u. The polymerization is carried out in the presence of an oil-sol, emulsifier 50% clear soln. in C₆H₆ at 25.degree.) which also has a strong wetting action in aq. solns. (surface tension by Traube method <32 dynes/cm, of 0.055% soln. in H₂O). Suitable emulsifiers are diesters of sulfosuccinic acid with the general formula O:C(OR)CH₂CH(SO₃Na)C(:O)OR', in which R and R' are radicals of higher aliphatic, cycloaliphatic, or oxyethylated alcs., polyglycols, and (or) partially esterified polyhydroxy ales. For better dispersion and particle stability, 0.2-4% by wt. (based on solids) of mono-, di-, or tri-fatty acid ester of a polyhydroxy alc. is added, esp. sorbitol, pentaerythritol, glycerol, and diglycerol, which act as an encapsulating layer on the particles. Thus, CH₂:CHCl (I), catalyst soln., e.g. K₂S₂O₈, (NH₄)₂S₂O₈, or H₂O₂, and a 2% aq. diisononyl sulfosuccinate as emulsifier were added to an autoclave at such a rate that the emulsifier soln. and I were in the same amts., and polymerized at 42-4.degree.. During this time, the latex was withdrawn from the bottom. The product had 45% solids, 29 dynes/cm, surface tension, particle size 0.6 .mu., and was stable enough to be handled by a centrifugal pump. For better viscosity and particle stability, the latex was treated with 3% of diglycerol monostearate (II). Viscosity (measured with a mixt. of 60,070 poly(vinyl chloride) and 40% dioctyl phthalate) of 7500 cp. increased after 28 days to 12,000 cp. Untreated latex (without II) had 8000 cp. and after 8 days 15,000 cp.

L26 ANSWER 22 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1942:28204 HCPLUS
DOCUMENT NUMBER: 36:28204
ORIGINAL REFERENCE NO.: 36:4331e-g
TITLE: Investigation on celluloses
AUTHOR(S): Marschall, A.
SOURCE: Svensk Papperstidn. (1941), 44, 284
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Cellulose regenerated from soln. is chemically different from native cellulose, even if the degree of polymerization (**viscosity**) is the same for both. M. subjected various types of celluloses (cotton, linters, rayon pulp with 88% alpha, super-refined pulp with 96% alpha) to H₂O₂ oxidation, dichromate oxidation, acid hydrolysis, O₂ oxidation in the presence of alkali (ripening) and acetolytic degradation to a degree of polymerization of approx. 200-i. e., in the same range as tech. rayon pulp. Products from intermediate stages were isolated and tested, as well as starting

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materials and the final products, for swelling in H₂O and NaOH, **soly.** in NaOH and in the following specific cellulose-hydrate solvents: Ca thiocyanate, Na zincate and formic acid-CaCl₂ soln. The soly. in the latter solvent in no cases exceeded 20% whereas in Ca thiocyanate and Na zincate the soly. in many cases was 100%. Formic acid-CaCl₂, therefore, is best suited for testing the origin of a **cellulose product** when chem. degradation has or is suspected to have taken place. 23 references.

L26 ANSWER 23 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1942:28203 HCPLUS
DOCUMENT NUMBER: 36:28203
ORIGINAL REFERENCE NO.: 36:4331e-g
TITLE: Investigation on celluloses
AUTHOR(S): Marschall, A.
SOURCE: Jentgen's Kunstseide u. Zellwolle (1941), 23,
160-73
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Cellulose regenerated from soln. is chemically different from native cellulose, even if the degree of polymerization (**viscosity**) is the same for both. M. subjected various types of celluloses (cotton, linters, rayon pulp with 88% alpha, super-refined pulp with 96% alpha) to H₂O₂ oxidation, dichromate oxidation, acid hydrolysis, O₂ oxidation in the presence of alkali (ripening) and acetolytic degradation to a degree of polymerization of approx. 200-i. e., in the same range as tech. rayon pulp. Products from intermediate stages were isolated and tested, as well as starting materials and the final products, for swelling in H₂O and NaOH, **soly.** in NaOH and in the following specific cellulose-hydrate solvents: Ca thiocyanate, Na zincate and formic acid-CaCl₂ soln. The soly. in the latter solvent in no cases exceeded 20% whereas in Ca thiocyanate and Na zincate the soly. in many cases was 100%. Formic acid-CaCl₂, therefore, is best suited for testing the origin of a **cellulose product** when chem. degradation has or is suspected to have taken place. 23 references.

L26 ANSWER 24 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1934:43356 HCPLUS
DOCUMENT NUMBER: 28:43356
ORIGINAL REFERENCE NO.: 28:5236a-b
TITLE: Cellulose esters
PATENT ASSIGNEE(S): British Celanese Ltd.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

----- ----- ----- ----- -----
GB 407509 19340322 GB

AB Cellulose acetates and other org. esters of cellulose are prep'd. from celluloses of **low viscosity**, namely, a cuprammonium viscosity of 90-100 centipoises, obtained by subjecting celluloses of relatively high viscosity to the action of acid media or neutral oxidizing

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agents. In examples, cotton linters for conversion to cellulose acetate are subjected to a pretreatment, in order to lower their viscosity, with boiling 0.5% H₂SO₄ or 0.1 N HCl, or with a mixt. of sulfonyl chloride and AcOH, or with the vapors of H₂O₂.

L26 ANSWER 25 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1930:34115 HCPLUS

DOCUMENT NUMBER: 24:34115

ORIGINAL REFERENCE NO.: 24:3643a-d

TITLE: Studies on viscose. III. The influence of oxygen on the ripening of viscose

AUTHOR(S): Lottermoser, A.; Schwarz, F.

SOURCE: Z. angew. Chem. (1930), 43, 16-9

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 24, 3359. Aging and xanthating of the alk. cellulose and ripening of viscose solns. similarly prep'd. were carried out in atms. of N₂, H₂, O₂ and open to the atm. With the first 2 gases (temp. 25.degree.), the viscose had a very high initial viscosity (200 sec.) that rapidly decreased with ripening to a min. (80 sec.) and then increased uniformly until it formed a very stiff gel after about 230 hrs. The color darkened with ripening. With O₂, the viscose had a low initial viscosity (60 sec.) that rapidly decreased to a const. value (25 sec.) until it formed a soft gel after about 550 hrs. When this latter soln. was vigorously stirred during ripening under O₂ the viscosity decreased to a value (2.2 sec.) slightly above that of the NaOH soln. used (1.34 sec.), where it remained const. until it formed a very soft gel after about 180 hrs. This gel when acidified with dil. H₂SO₄ liberated SO₂ and CO₂ rather than H₂S. With O₂ the color of the viscose becomes lighter with ripening. The viscosity-ripening period curve for viscose prep'd. in open atm. lies between those for viscose solns. prep'd. in O₂ and in N₂. The viscosity of a viscose soln. ripened for a time (100 hrs.) in O₂ immediately increases if the O₂ is replaced by N₂, whereas the reverse is true if N₂ is replaced by O₂. The process of ripening is explained as a breaking down of the complex cellulose xanthate into cellulose and CS₂. In an atm. of O₂ the regenerated cellulose oxidizes, becomes more sol. in NaOH and thus gives a low viscose soln.

L26 ANSWER 26 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1928:33903 HCPLUS

DOCUMENT NUMBER: 22:33903

ORIGINAL REFERENCE NO.: 22:3988f-h

TITLE: Cellulose esters

INVENTOR(S): Barthelemy, H. L.

PATENT ASSIGNEE(S): Ruthaldo Co.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
GB 282793		19261228	GB	

AB In esterifying cellulose and nitrocelluloses of low N content, a mixt. is employed contg. an acid anhydride such as Ac₂O and a

catalyst such as H₂SO₄ together with a reagent capable of effecting a mild oxidation of the cellulose such as Mn sulfates, Mn acetate, chromic acid, mono-persulfuric acid, manganic and permanganic acid and peracetic acid. By acetylating cotton in this manner, more uniform products are obtained from starting materials of different character than would be produced by processes as previously usually employed, especially as to viscosity characteristics. Brit. 282,794 specifies treating cellulose, before esterification, with a direct oxidizing agent such as Na₂O₂ or other alkali peroxide or H₂O₂ under alk. conditions. Alkali carbonates, silicates, resinates, soaps and Na or NH₄ sulforicinates or the like may be added. Cellulose nitrates or acetates thus produced give solns. of low viscosities and produce products of good tensile strength and elongation.

L26 ANSWER 27 OF 28 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1923:3490 HCPLUS

DOCUMENT NUMBER: 17:3490

ORIGINAL REFERENCE NO.: 17:632c-h

TITLE: Viscosity of cellulose. II. The lowering of the viscosity of cellulose by various reagents

AUTHOR(S): Joyner, R. A.

SOURCE: J. Chem. Soc. (1922), 121, 2395-409 ←

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 16, 3543. The effect of varying concn. of NaOH on sliver cotton when heated for 9 hrs. at various temps. was detd. The more dil. solns. of NaOH have a relatively greater effect than the more concd. ones; it is probable that the effect is due to the HO ions. These results are important in the kiering of cotton. The concns. of the NaOH used are generally not more than 4% and therefore the drop in viscosity can be found for any temp. between 100 and 40.degree. for a kiering period of 9 hrs. From the extrapolated values it is seen that the max. value of the viscosity of cellulose is about 57,000 sec. or 28,000 C. G. S. units at 20.degree. for a 2% soln. in cuprammonium hydroxide contg. 13 g. Cu and 200 g. NH₃ per l. It is believed that there are 2 kinds of cellulose, high-viscosity cellulose or "A", which has the high value, and a low-viscosity cellulose, "B", which has a viscosity of 1 sec. for a 5% soln. The action of N NaOH on cellulose at various temps. seems to follow the unimol. law. Sorption of NaOH takes place and is increased by the addition of neutral salts. Neutral salts alone had little effect on raw sliver at 120.degree. but in conjunction with NaOH, KCl had an especially strong effect. The sorption of NaCl or KCl by cellulose from 22% soln. was small (about 1 g. per 100 g. cellulose). The effect of dil. HCl was studied. The temp. effect is large and the constant is probably proportional to the acid concn. Viscosity values show that the addition of a small amt. of air to the cellulose soln. brings about a great change, while further additions produce little effect. It is calcd. that 16 g. O will react with about 2100 g. cellulose, converting all of "A" into "B". Boiling cellulose with 4% NaOH for 0.75 hr. at atm. pressure during which time H₂O₂ was added, reduced the viscosity from 2160 to 1.7; the product had no Cu reduction no., and was, therefore, little degraded. The addition of 1.5 cc. N NaOCl per g. of cellulose in NaOH reduced the viscosity of a 4% soln. to 4 sec.; in Na₂CO₃ soln., 0.8 cc..N soln. reduced the viscosity to 2.5 sec. Since 16 g. O

reacted with about 2500 g. cellulose in these expts., this means that the min. mol. wt. of cellulose must be at least 2500, should 1 atom of O react with 1 mol. cellulose.

L26 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1908:643 HCAPLUS

DOCUMENT NUMBER: 2:643

ORIGINAL REFERENCE NO.: 2:184c-i,185a-d

TITLE: Researches on the Higher Nitrates of Cellulose,
Hydrocellulose and Oxycellulose

AUTHOR(S): Berl, E.; Klaye, R.

SOURCE: Zurich Polytec., Z. ges. Schiess-Sprengstofw.
(1907), 2, 381

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

AB The authors attempt a solution of the question of the constitution of the high nitration products of cellulose.

Various investigators have advanced theories that these products were really hydrocellulose nitrates, or that a preliminary formation of oxycellulose nitrates occurs. The claims of Lunge and Bebie (Z. angew. Chem., 14, 511 (1901)) that a true cellulose nitrate is formed, are supported by the authors. Pure cellulose, hydrocellulose and oxycellulose are nitrated under exactly similar conditions as to composition and temperature of acid mixture, time of dipping, etc. Analyses of the materials were made before and after nitrating. Before nitrating the following tests were made: elementary analysis for C and H; ash; coloration with iodine + H₂SO₄ and iodine + ZnCl₂; test with Fehling's solution; microscopic examination; after nitrating; elementary analysis; percentage of nitrogen by nitrometer and Dumas method; solubility in ether-alcohol; absorption of methylene blue; viscosity; microscopic examination. The products used for nitrating were as follows: Cellulose (from surgical cotton); hydrocellulose prepared from (1) cellulose and 3% H₂SO₄, (2) cellulose and

H₂O₂. Oxycellulose prepared from pure cellulose by six methods, consisting of oxidation with the following: KMnO₄, Br, HNO₃, KCLO₃, CaOCl₂, Ca(MnO₄)₂. The use of the latter reagent for the formation of oxycellulose is claimed as original by the authors. 5 g. of cellulose are digested for one week with 22 g. Ca(MnO₄)₂ and 1 l. water, the product being decolorized with SO₂, and washed with water. Methods of preparation with references, and methods of testing are given, and formulae derived for the probable composition of the products. All of these preparations are then nitrated at a uniform temperature of 19-20.degree., with 24 hrs. immersion in 50 parts of the following acid mixture: H₂SO₄-46.22%, HNO₃-42.03%, N₂O₄-0.25%, H₂O-11.50%.

After washing in cold and hot water, with final drying at 35-40.degree. in vacuo over P₂O₅, the nitrated products were tested as before noted. The product obtained from pure cellulose is identified as the endecanitrate of cellulose, C₂₄H₂₉O₉(ONO₂)₂ containing theoretically, C 25.17, H 2.56, N 13.47%; analysis gave, C 25.25, H 2.88, N 13.50%. The hydro- and oxycellulose nitrates gave 0.6-0.2% less nitrogen than this compound. Their solubility was much higher, but closely agreeing with that of cellulose nitrates of equivalent nitration. Their attraction for methylene blue was found almost double that of

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cellulose nitrates of the same nitrogen content and in every case but one, greater than that of even pure cellulose. The difference in the values for viscosity is considered the most important point of the investigation. Expressing the viscosity of the cellulose nitrate (13.50% N) as 10,000 the values for the hydro-and oxycellulose nitrates lie between 65.7 and 5.15. The viscosity of a series of nitrates of pure cellulose prepared under similar conditions is given: , Time of flow of; % H₂O in acid, 2 % acetone solution; mixture, % N., in seconds at 18.degree., Relative values.; 11.50, 13.50, 322, 465, 10,000; 13.20, 13.02, 18, 631, 578; 15.49, 12.48, 16, 227, 503; 20.53, 10.41, 1, 800, 56; 25.31, 9.09, 474, 15; Acetone, 35, 1; An increase in the water content of the mixed acid is assumed to produce a breaking down of the complex cellulose molecule, causing a remarkable decrease in viscosity In the case of the hydro- and oxycellulose nitrates, the reduction in viscosity is apparently not connected with a falling off in % N, as the nitrogen content is only slightly lower than that of the high cellulose nitrate. The low viscosity of these products. is attributed to a similar breaking down of the molecule in the process of oxidation or hydrolysis previous to nitrating. A general conclusion is drawn that the formation of either hydro- or oxycellulose nitrates must play a very minor part, if any, in the formation of the higher nitrates of cellulose at ordinary temperatures.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
JICST-EPLUS, JAPIO, PROMT, CIN, CBNB, CEN' ENTERED AT 12:37:41 ON
05 AUG 2002)

L27 18 S L22
L28 12 S L25
L29 25 S L27 OR L28
L30 24 DUP REM L29-(L DUPLICATE REMOVED)

L30 ANSWER 1 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 2001:921410 PROMT
TITLE: Product Listings: Raw Materials.
SOURCE: The Journal of Coatings Technology, (Nov 2001) Vol.
73, No. 922, pp. 123(34).
ISSN: 0361-8773.
PUBLISHER: Federation of Societies for Coatings Technology
DOCUMENT TYPE: Newsletter
LANGUAGE: English
WORD COUNT: 24820

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB Chemical Specialties
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Coatings Technology

Subscription: \$40.00 per year. Published monthly. 492 Norristown
Road, Blue Bell, PA 19422.

L30 ANSWER 2 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 2001:406038 PROMT
TITLE: GLASS INDUSTRY INDEX.
SOURCE: Glass International, (March 2001) Vol. 24, No. 2, pp.
S37.

09/856545

ISSN: 0143-7836.

PUBLISHER: DMG Business Media Ltd.

DOCUMENT TYPE: Newsletter

LANGUAGE: English

WORD COUNT: 79545

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

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L30 ANSWER 3 OF 24 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2001-357026 [38] WPIDS

DOC. NO. CPI: C2001-110895

TITLE: Depolymerization of cellulose ether involves acid hydrolysis of a concentrated aqueous slurry at above the flocculation temperature, used to coat seeds, pharmaceuticals and for use in cosmetics and food.

DERWENT CLASS: A11 A96 A97 B07 D13 D21 G02

INVENTOR(S): HAMMES, A

PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH

COUNTRY COUNT: 22

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 19941893	A1	20010308	(200138)*	7	
WO 2001018062	A1	20010315	(200138)	GE	
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: JP KR MX US					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19941893	A1	DE 1999-19941893	19990903
WO 2001018062	A1	WO 2000-EP8538	20000901

PRIORITY APPLN. INFO: DE 1999-19941893 19990903

AN 2001-357026 [38] WPIDS

AB DE 19941893 A UPAB: 20010711

NOVELTY - A method for the depolymerization of hot water-flocculatable cellulose ethers (I) by hydrolytic degradation with acid, in which degradation is carried out at a temperature above the flocculation point with (I) in the form of a concentrated aqueous slurry.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for methylhydroxypropylcellulose (MHPC) with a Hoppler viscosity of not more than 50 mPa.s (measured on a 2.0% solution of the (dry) substance in water at 20 deg. C), which shows a degree of whiteness of more than 50% with a particle size distribution in where not more than 50% of the particles have a particle size of less than 125 micro m.

USE - For coating pharmaceuticals or seeds, for use in

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cosmetics or food and for use in suspension polymerisation (claimed).

ADVANTAGE - Enables the production of low-viscosity cellulose ethers with (as far as possible) a uniform degree of polymerisation, a low content of by-products, a very low salt content and a high degree of whiteness, forming solutions with a high transmission value.

Dwg.0/0

L30 ANSWER 4 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-585479 [55] WPIDS
DOC. NO. CPI: C2000-174314
TITLE: Carbohydrates are oxidized by treatment with a Fe(III) complex as oxidizing agent in the presence of a di-tertiary-alkyl-nitroxyl compound as catalyst.
DERWENT CLASS: A11 D17 D25 E12 E19 F09
INVENTOR(S): BOGAERT, P M P; SIVASLIGIL, D S; SLAGHEK, T M
PATENT ASSIGNEE(S): (ATOD-N) ATO-DLO INST AGROTECHNOLOGISCH ONDERZOEK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
NL 1010341	C2	20000418 (200055)*		11	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
NL 1010341	C2	NL 1998-1010341	19981016

PRIORITY APPLN. INFO: NL 1998-1010341 19981016

AN 2000-585479 [55] WPIDS

AB NL 1010341 C UPAB: 20001102

NOVELTY - Carbohydrates are oxidized with a Fe(III) complex in the presence of a di-tertiary-alkyl-nitroxyl compound as catalyst.

DETAILED DESCRIPTION - A process for the oxidation of carbohydrates by treatment with a Fe(III) complex as oxidizing agent in the presence of a catalytic amount of a di-tert.-alkyl-nitroxyl compound.

USE - For selective oxidation of alcohols containing primary and secondary OH groups in carbohydrates such as mono-, di- and oligosaccharides, non-reducing carbohydrates such as alkylglycosides, sucrose, raffinose, etc., reducing carbohydrates with a chain length of at least 5, preferably at least 10 monosaccharide units, and polymeric carbohydrates such as alpha-glucans (starch, amylose, etc.), beta-glucans (cellulose, chitin, etc.), glucomannans and galactomannans (guar, carob bean flour) and other bacterial or plant gums. The products are carboxylic acids which have undergone little or no further reaction but which have a greatly increased solubility in water and are thus useful as cheap and environmentally friendly materials for use as papermaking assistants, flocculating agents, polyelectrolytes, co-builders and antistatics.

ADVANTAGE - The use of Fe(III) complexes as oxidising agent in conjunction with the known di-tert.-alkyl-nitroxyl compounds

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(TEMPO; described in WO9507303) gives selective oxidation of alcoholic OH groups to carboxyl groups with little or no chain rupture or ring opening side reactions.

Dwg.0/0

L30 ANSWER 5 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-019734 [03] WPIDS
DOC. NO. CPI: C2001-006174
TITLE: Manufacture of low viscous sodium carboxymethylcellulose for foodstuffs, involves reacting sodium carboxymethylcellulose in solid phase state with hydrogen peroxide at specific pH, adding alkali during the reaction.
DERWENT CLASS: A11
PATENT ASSIGNEE(S): (DAII) DAIICHI KOGYO SEIYAKU CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2000290301 A		20001017 (200103)*			4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2000290301 A		JP 1999-99585	19990407

PRIORITY APPLN. INFO: JP 1999-99585 19990407

AN 2001-019734 [03] WPIDS

AB JP2000290301 A UPAB: 20010116

NOVELTY - A sodium carboxymethylcellulose in solid phase state and hydrogen peroxide are reacted at a pH of 7 or less. Alkali is added during the reaction and reaction is continued maintaining the pH at 7 or more.

USE - For manufacture of low viscous sodium carboxymethylcellulose, used as sauce sizing agent for foodstuffs, foodstuff gel adjuvant pectin and xanthan gum.

ADVANTAGE - The low viscosity sodium carboxymethylcellulose has high strength, non-newton property. High industrial usage is offered.

Dwg.0/0

L30 ANSWER 6 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-402944 [35] WPIDS
DOC. NO. CPI: C2000-122260
TITLE: Manufacture of carboxymethylcellulose alkali salt for adhesive paste, involves adding hydrogen peroxide (salt) to an etherification agent.
DERWENT CLASS: A11
PATENT ASSIGNEE(S): (DAII) DAIICHI KOGYO SEIYAKU CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

09/856545

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2000119303 A		20000425 (200035)*			6

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2000119303 A		JP 1998-298858	19981020

PRIORITY APPLN. INFO: JP 1998-298858 19981020

AN 2000-402944 [35] WPIDS

AB JP2000119303 A UPAB: 20000725

NOVELTY - Cellulose raw material is etherified by adding an etherification agent. **Hydrogen peroxide** and/or its salt are added to the etherification agent during the process, to obtain a carboxymethylcellulose (CMC) alkali salt.

USE - CMC is used as an adhesive paste.

ADVANTAGE - CMC has **low-viscosity**, good transparency, fluidity and substitution degree.

Dwg. 0/0

L30 ANSWER 7 OF 24 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-401125 [35] WPIDS

DOC. NO. CPI: C2000-121487

TITLE: **Low-viscosity, water-soluble cellulose ether production by oxidative degradation of high-viscosity cellulose ether with aqueous hydrogen peroxide solution.**

DERWENT CLASS: A11

INVENTOR(S): SCHLESINGER, H; SCHLESIGER, H

PATENT ASSIGNEE(S): (WOLF) WOLFF WALSRODE AG

COUNTRY COUNT: 91

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 19854770	A1	20000531 (200035)*			5
WO 2000032636	A1	20000608 (200035)		GE	
RW:	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW				
W:	AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
AU 2000015061	A	20000619 (200044)			
NO 2001002577	A	20010525 (200147)			
EP 1153040	A1	20011114 (200175)		GE	
R:	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI				
BR 9915690	A	20011113 (200201)			
KR 2001080592	A	20010822 (200213)			
CN 1334822	A	20020206 (200231)			

09/856545

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19854770	A1	DE 1998-19854770	19981127
WO 2000032636	A1	WO 1999-EP8779	19991115
AU 2000015061	A	AU 2000-15061	19991115
NO 2001002577	A	WO 1999-EP8779	19991115
		NO 2001-2577	20010525
EP 1153040	A1	EP 1999-957311	19991115
		WO 1999-EP8779	19991115
BR 9915690	A	BR 1999-15690	19991115
		WO 1999-EP8779	19991115
KR 2001080592	A	KR 2001-706602	20010526
CN 1334822	A	CN 1999-813715	19991115

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000015061	A Based on	WO 200032636
EP 1153040	A1 Based on	WO 200032636
BR 9915690	A Based on	WO 200032636

PRIORITY APPLN. INFO: DE 1998-19854770 19981127

AN 2000-401125 [35] WPIDS

AB DE 19854770 A UPAB: 20000725

NOVELTY - Production of low-viscosity, water-soluble cellulose ethers by oxidative degradation comprises intensively mixing a high-viscosity cellulose ether with an aqueous H₂O₂ solution and then holding the mixture under motion at 65-125 deg. C until at least ca. 90% of the H₂O₂ is used up.

DETAILED DESCRIPTION - Production of low-viscosity, water-soluble cellulose ethers by oxidative degradation comprises (i) intensively mixing a high-viscosity cellulose ether at 65-125degreesC with an aqueous H₂O₂ solution such that (a) the H₂O₂ content is 0.1-10 parts wt. per 100 parts wt. dry cellulose ether and (b) the solids content of the mixture does not fall below 25 wt.%; and then (ii) holding the mixture under motion at 65-125degreesC until at least ca. 90% of the H₂O₂ is used up.

USE - None given.

ADVANTAGE - Unlike in the oxidative degradation processes of DE2016203 and DE1543116, the viscosity is set immediately after the washing step such that subsequent drying, milling (or granulating) and separation processes are not influenced. Neither do these subsequent steps influence the degradation achieved.

Dwg.0/0

L30 ANSWER 8 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 1999:801211 PROMT

TITLE: The many roles of acetoacetic acid.

AUTHOR(S): Lower, Edgar

SOURCE: Speciality Chemicals, (June 1999) Vol. 19, No. 5, pp. 222.

09/856545

ISSN: 0262-2262.

PUBLISHER: DMG Business Media Ltd.

DOCUMENT TYPE: Newsletter

LANGUAGE: English

WORD COUNT: 2073

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB Acetoacetic acid and its esters have many applications in organic synthesis, and have been used in the manufacture of polyene ketones, fungicides ozo dyes and resins.

THIS IS THE FULL TEXT: COPYRIGHT 1999 DMG Business Media Ltd.

Subscription: 137.00 British pounds per year. Published monthly.
Queensway House, 2 Queensway, Redhill, Surrey RH1 1QS., United Kingdom

L30 ANSWER 9 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 1998:526629 PROMT

TITLE: Emulsion polymerisation: developments since 1980

AUTHOR(S): Warson, Henry

SOURCE: PPCJ. Polymers Paint Colour Journal, (Jun 1998) pp. 16.

ISSN: 1357-731X.

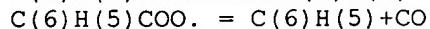
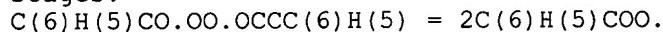
LANGUAGE: English

WORD COUNT: 3756

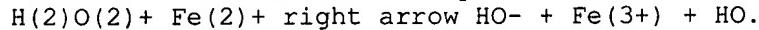
FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB Henry Warson

FREE RADICAL polymerisation implies the chain extension of an unsaturated monomer such as ethylene, vinyl chloride, vinyl acetate and ethyl acrylate by a factor usually at least 50 and which may give molecular weights of a million or more. The reaction is initiated by compounds forming free radicals. These include persulfates, the decomposition of which can be simply illustrated as $K(2)S(2)O(8) = 2KSO(4)$, dibenzoyl peroxide which decomposes in two stages:



and **hydrogen peroxide**, which strictly needs a trace of a ferrous salt to operate as the Haber-Weiss mechanism:



The radical formed adds to the monomer giving an activated species, which continues to add more monomer until a termination reaction takes place. This can be by the combination of two growing chains, by disproportionation, forming a saturated compound, one with ethylenic unsaturation on the end group, or by a reaction with a chain terminator, and occasionally with fortuitous impurities.

Polymerisation in bulk, applying heat, is only suitable in a number of limiting cases because of increasing **viscosity**.

Polymerisation in solvents is again restrictive, particularly as completion of polymerisation is often difficult, and there are **viscosity** problems.

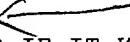
The alternative is to perform the polymerisation in water. There are two alternative methods. One is the formation of large dispersed particles approximately 1mm in diameter, kept stable by vigorous stirring in the presence of a protective colloid such as polyvinyl alcohol. When polymerisation is virtually complete there is no tendency for the particles of polymer to agglomerate, and they can be filtered and dried. This process has limitations where soft

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polymers are formed. The tendency of particles to agglomerate occurs when the temperature is above the second order transition point, (Tg), which is an intermediate state between solid and liquid phases.

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L30 ANSWER 10 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1998-506694 [43] WPIDS
DOC. NO. CPI: C1998-152987
TITLE: Corn fibre gum preparation for film formation, etc.
- by mixing corn fibre with alkaline solution to
form slurry and extract hemicellulose, treating
slurry with hydrogen per oxide and separating
insoluble fractions.
DERWENT CLASS: A11 B07 D13 D17 D21 G03 L02
INVENTOR(S): DONER, L W; HICKS, K B; SWEENEY, G A
PATENT ASSIGNEE(S): (NATT) NAT STARCH & CHEM INVESTMENT HOLDING COR;
(USDA) US SEC OF AGRIC
COUNTRY COUNT: 82
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9840413	A1	19980917 (199843)*	EN	44	
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW					
NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI					
GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT					
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL					
TJ TM TR TT UA UG UZ VN YU ZW					
AU 9865752	A	19980929 (199906)			
EP 1007572	A1	20000614 (200033)	EN		
R: AT BE CH DE DK ES FI FR GB IT LI NL PT SE					
JP 2000509760 W		20000802 (200042)		43	
US 6147206	A	20001114 (200060)			
AU 736709	B	20010802 (200152)			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9840413	A1	WO 1998-US5551	19980313
AU 9865752	A	AU 1998-65752	19980313
EP 1007572	A1	EP 1998-911904	19980313
		WO 1998-US5551	19980313
JP 2000509760 W		JP 1998-539910	19980313
		WO 1998-US5551	19980313
US 6147206	A CIP of	US 1997-818187	19970314
		US 1998-39153	19980313
AU 736709	B	AU 1998-65752	19980313

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9865752	A Based on	WO 9840413
EP 1007572	A1 Based on	WO 9840413
JP 2000509760 W	Based on	WO 9840413

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AU 736709 B Previous Publ. AU 9865752
Based on WO 9840413

PRIORITY APPLN. INFO: US 1998-39153 19980313; US 1997-818187
19970314

AN 1998-506694 [43] WPIDS

AB WO 9840413 A UPAB: 19981028

Preparation of corn fibre gum comprises: (a) mixing corn fibre with an alkaline solution to form a slurry and extract hemicellulose; (b) treating the slurry with **hydrogen peroxide** at pH 10-12.5 and (c) separating the insoluble fractions from the slurry. Also claimed is the corn fibre gum prepared as above.

Steps (a) and (b) are preferably carried out simultaneously. The corn fibre is destarched by alpha -amylase. Step (b) is carried out at pH of 11.2-11.8. The alkaline solution is sodium hydroxide, calcium hydroxide, potassium hydroxide or magnesium hydroxide.

H₂O₂ is added in an amount of 5-20%. The process also comprises precipitating hemicellulose A by acidifying the slurry so that hemicellulose A precipitates out and the corn fibre gum remains in solution and the precipitated product is separated out. Acidification is carried out with sulphuric acid to pH 3.5-6.0 between steps (b) and (c). Step (c) is carried out by filtration or centrifugation, especially horizontal decanted and high speed disk centrifugation. The process also comprises a second alkaline **H₂O₂** treatment after separation of insoluble fractions and a second separation step after the treatment.

USE - The corn fibre gum is useful for film formation and to thicken, emulsify, stabilise and/or extend aqueous solutions and suspensions.

ADVANTAGE - The corn fibre gum is highly **soluble** in **water** and forms **low viscosity** solutions which are nearly colourless over a wide pH range. The corn fibre gum has no objectionable flavour and aroma.

Dwg. 0/4

L30 ANSWER 11 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 95:123206 PROMT

TITLE: **Cellulose-Cleaving Activity Contaminating E. coli-Produced Recombinant Proteins**
Cellulose clearing activities of E.Coli can affect topical gel and protein purification

SOURCE: BioPharm, (Mar 1995) pp. 32.
ISSN: 1040-8304.

LANGUAGE: English

WORD COUNT: 3544

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB By Zahra Shahrokh, Irina Beylin, Gert Eberlein, Mark Busch, Ling-Ling Kang, Amy Wong, Cheryl Anderson, Diane Blumenthal, and Y. John Wang

Cellulose-cleaving activity in E. coli can compromise the stability of topical gel formulations and decrease the lifetime of cellulose-containing columns and filters used for protein purification. This article describes the detection and quantitative estimation of a cellulose-cleaving activity in E. coli using sensitive viscometric and HPLC assays. The authors determine that cellulase-like activity should be considered during purification of E. coli -expressed proteins.

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The challenge of developing topical protein formulations includes maintaining the stability of a protein drug and the physical characteristics of a vehicle over the course of product shelf life. Compounds typically used for gel protein formulations are cellulose derivatives, carboxyvinyl polymers (Carbopol for example), and polyethylene glycol ether derivatives (1). Hydroxyethylcellulose (HEC) is a nonionic, water-soluble, nonirritating compound that has been used for preparation of semisolid formulations for proteins such as acidic fibroblast growth factor (aFGF) (2), transforming growth factor-(alpha) (TGF-(alpha)) (3), epidermal growth factor (EGF) (5) and transforming growth factor-(beta) (TGF-(beta)) (4), platelet-derived growth factor (PDGF) (5), and relaxin (6). It has a particularly useful range of viscosity for application as a topical formulation of fibroblast growth factors that are under clinical investigation for accelerating wound healing. Hydration of the HEC power is followed by gelation, presumably due to hydrogen bonding of the hydroxyethyl groups (three groups per hexose monomer) with water. Predominant determinants of HEC viscosity are polymer concentration, molecular weight, degree of ethylene oxide substitution in the cellulose molecule, and temperature.

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L30 ANSWER 12 OF 24 CEN COPYRIGHT 2002 ACS

ACCESSION NUMBER: 95:1660 CEN
TITLE: Fine And Intermediate Chemicals Makers Emphasize New Products and Processes
Rise in competition and pressures on costs, especially in the pharmaceutical sector, force technological innovations
AUTHOR: Stinson, Stephen C.
CORPORATE SOURCE: C&EN Northeast News Bureau
SOURCE: Chemical & Engineering News, (17 Jul 1995) Vol. 73, No. 29, pp. 10.
CODEN: CENEAR, ISSN: 0009-2347.
PUBLISHER: American Chemical Society
LANGUAGE: English
WORD COUNT: 3048

L30 ANSWER 13 OF 24 WPIDS (C) 2002 THOMSON DERMONT

ACCESSION NUMBER: 1994-053980 [07] WPIDS
DOC. NO. CPI: C1994-024431
TITLE: Prepn. of lower mol. wt.
cellulose deriv. - comprises depolymerised and etherification of depolymerised cellulose deriv..
DERWENT CLASS: A11 A96 B07
PATENT ASSIGNEE(S): (SANN) SANYO CHEM IND LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 06009701	A	19940118 (199407)*		5	
JP 06081761	B2	19941019 (199440)		4	

09/856545

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 06009701	A	JP 1992-186192	19920619
JP 06081761	B2	JP 1992-186192	19920619

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 06081761	B2 Based on	JP 06009701

PRIORITY APPLN. INFO: JP 1991-198629 19910712

AN 1994-053980 [07] WPIDS

AB JP 06009701 A UPAB: 19950314

Depolymerisation of cellulose deriv(s) (I) comprises treating (I) selected from (A) with water-soluble oxidising agent (II) in organic solvent (III) at 10-90 deg C in presence of water. (A) is CMC, methylcellulose, ethylcellulose, hydroxyethyl-cellulose, hydroxypropylcellulose, or benzylcellulose with low deg. of substitution to satisfy (1) equilibrium moisture content at 20 deg. C in relative humidity 80% for 24 hr. above 10% and (2) viscosity of 5% aq. (I) soln. above 5,000cps.

Etherification of the depolymerisation prod. (IV) comprises treating (IV) with etherification agent (V) in (III) in presence of water and caustic alkali (VI).

Pref. (I) is mixed with (III) (pref. a mixt of toluene and iso- or sec-butanol) and water (pref. 1-15 wt. % to (I)), (II) (pref. H₂O₂ soln., 0.2-7 wt % to (I)) is added. The mixture is maintained at 10-90 deg. C for 1-10 hrs. to obtain (IV). (IV) is treated with (V) (e.g alkyl halide, dialkyl sulphate, alkylene oxide, etc., pref. alkyl halide) in presence of (VI) (pref. NaOH, KOH) and phase-transfer catalyst (pref. triethylamine) at 60-150 deg. C for 6-12 hrs. to obtain (VII).

USE/ADVANTAGE - The etherised prod. (VII), lower mol wt. modified cellulose, is useful as material to prepare slow-releasing preparation of drug. (VII) having narrow mol. wt. distribution is prep'd. under mild conditions in high yield.

Dwg.0/0

Dwg.0/0

L30 ANSWER 14 OF 24 PROMT COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 92:195103 PROMT

TITLE: Flourishing market for hair conditioners

World: Conditioning shampoos containing cationic agents are used in place of conditioners

SOURCE: Manufacturing Chemist, (Feb 1992) pp. 28.

ISSN: 0262-4230.

LANGUAGE: English

WORD COUNT: 4009

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB The term 'hair conditioning' denotes a variety of functions, such as keeping the hair manageable, making it easy to comb and set, preventing the accumulation of static electricity, etc. The term therefore refers to any hair preparation or additive which enhances

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the appearance, feel and general manageability of the hair. A conditioner should be substantive to hair - particularly to damaged hair - with this substantivity being offered to a varying degree by cationic materials.

The separate conditioning of shampooed hair is often now replaced by the use of conditioning shampoos(1), containing cationic conditioning agents which are compatible with the anionic surfactants of such shampoos. These conditioning agents deposit on the hair whilst it is being shampooed. Although they have grown extensively in popularity in recent years, largely due to TV advertising, they have been well known since the late sixties and early seventies. The most recent innovation in the hair conditioning field is the extensive use of hair conditioning/styling mousse also based on polymers.

An example of a quaternary ammonium compound used in conditioning preparations is cetyl trimethyl ammonium chloride, also known as trimethyl hexadecyl ammonium chloride and marketed by Akzo Chemie under the brand name of Arquad 16-50. Another quaternary ammonium compound which is used quite extensively is lauryl trimethyl ammonium chloride, also known as Arquad 12-50. The latter was used as the active agent in clear aqueous conditioning compositions disclosed in a US Patent in 1979(2) at levels preferably between 0.25 and 5% by weight.

Tables detail 8 hair conditioning formulations.

By Philip Alexander

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L30 ANSWER 15 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1992-083677 [11] WPIDS
DOC. NO. CPI: C1992-038279
TITLE: Low viscosity sodium carboxymethyl cellulose prepns.
- by mixing with hydrogen peroxide and heating, producing simulated gum arabic.
DERWENT CLASS: A11 B07 D13 D21 E36
PATENT ASSIGNEE(S): (DAIL) DAICEL CHEM IND LTD; (NICR) NICHIRIN KAGAKU KOGYO KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 04025501	A	19920129 (199211)*		4	
JP 2800061	B2	19980921 (199843)		4	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 04025501	A	JP 1990-130474	19900521
JP 2800061	B2	JP 1990-130474	19900521

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 2800061	B2 Previous Publ.	JP 04025501

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PRIORITY APPLN. INFO: JP 1990-130474 19900521
AN 1992-083677 [11] WPIDS
AB JP 04025501 A UPAB: 19931006

Prepn. comprises mixing sodium carboxymethyl cellulose with hydrogen peroxide and heating the mixt. at pH 6.6-3.0 to mfr. low viscosity sodium carboxymethyl cellulose under solid conditions.

ADVANTAGE - The prepn. can mfr. gum arabic simulated low viscosity sodium carboxymethyl cellulose with viscosity of 30 wt.% aq. soln. 100-10000 cps and rheological characteristics near to Newtonian fluid industrially. The prepn. can be carried out with minimal danger of hydrogen peroxide due to reduced amt. of used hydrogen peroxide. In an example,

L30 ANSWER 16 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1992-017633 [03] WPIDS
DOC. NO. CPI: C1992-007608
TITLE: High solids aq. polysaccharide compsns. prodn. for oil drilling - with oxidative degradation to reduce viscosity, by reacting hydroxyethyl- and propyl cellulose with hydrogen peroxide , for food.
DERWENT CLASS: A11 A96 A97 B07 D13 D21 H01
INVENTOR(S): ANGERER, J D; MODI, J J; SZAFRANSKI, R C
PATENT ASSIGNEE(S): (ANGE-I) ANGERER J D; (MODI-I) MODI J J; (SZAF-I) SZAFRANSKI R C; (AQUA-N) AQUALON CO
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	
EP 465992	A	19920115 (199203)*		7		←
R: AT BE CH DE FR GB IT LI NL SE						
AU 9180231	A	19920116 (199213)				
CA 2046089	A	19920103 (199213)				
JP 04306245	A	19921029 (199250)		6		
AU 650273	B	19940616 (199429)				
US 5480984	A	19960102 (199607)		4	←	
JP 08009680	B2	19960131 (199609)		5		
EP 465992	B1	19980617 (199828) EN				
R: AT BE CH DE FR GB IT LI NL SE						
DE 69129608	E	19980723 (199835)				
US 6054511	A	20000425 (200027)				

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 465992	A	EP 1991-110943	19910702
JP 04306245	A	JP 1991-161867	19910702
AU 650273	B	AU 1991-80231	19910705
US 5480984	A Div ex	US 1990-546866	19900702
		US 1992-834163	19920211
JP 08009680	B2	JP 1991-161867	19910702
EP 465992	B1	EP 1991-110943	19910702

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DE 69129608	E	DE 1991-629608	19910702
US 6054511	A Cont of	EP 1991-110943	19910702
		US 1990-546866	19900702
		US 1993-6025	19930115

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 650273	B Previous Publ.	AU 9180231
JP 08009680	B2 Based on	JP 04306245
DE 69129608	E Based on	EP 465992

PRIORITY APPLN. INFO: US 1990-546866 19900702; US 1992-834163
19920211; US 1993-6025 19930115

AN 1992-017633 [03] WPIDS

AB EP 465992 A UPAB: 19971030

Prod'n of aq. polysaccharide compsns. with a high solids content and
low viscosity is effected treating an aq.

polysaccharide compsn. having a solids content of 5-50% with an
oxidising agent (I) capable of depolymerising the polysaccharide.

The polysaccharide is a modified cellulose or guar, e.g.,
carboxymethyl cellulose (CMC) or hydroxyethyl cellulose (HEC). (I)
is 30-50% aq. H₂O₂. The treated compsn. has a solids
content of 30-50 wt.% and a viscosity below 9500 mPa. sec at 25
deg.C.

USE - The process has industrial applicability in food,
pharmaceuticals, coatings, printing, paper, construction, cosmetics
and oil drilling.

Dwg.0/0

ABEQ US 5480984 A UPAB: 19960222

A process for producing a high solids, **low**
viscosity aqueous polysaccharide solution product consisting
essentially of the steps of:

(1) preparing a mixture of a 5 to 50% solids aqueous
polysaccharide composition and a **hydrogen peroxide**
oxidizing agent capable of depolymerizing the polysaccharide,
wherein the oxidizing agent is added to the water prior to the
polysaccharide addition, and

(2) reacting the polysaccharide and oxidizing agent to produce
a product with a solids content above 20% and ranging up to about
50% and a viscosity below 9500 mPa.s at 25deg. C.

Dwg.0/0

L30 ANSWER 17 OF 24 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1985-206651 [34] WPIDS

DOC. NO. CPI: C1985-089857

TITLE: **Low viscosity** carboxymethyl
ethyl cellulose mfr. - by depolymerisation of the
high viscosity cpd. using hypohalous acid.

DERWENT CLASS: A11 A96 B07 G02

PATENT ASSIGNEE(S): (WAKP) WAKO PURE CHEM IND LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 60130528	A	19850712 (198534)*		4	

09/856545

JP 05008175 B 19930201 (199308)

4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 60130528	A	JP 1983-239500	19831219
JP 05008175	B	JP 1983-239500	19831219

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 05008175	B Based on	JP 60130528

PRIORITY APPLN. INFO: JP 1983-239500 19831219

AN 1985-206651 [34] WPIDS

AB JP 60130528 A UPAB: 19930925

Carboxymethyl ethylcellulose (CMEC) having low viscosity and high coating property is obtd. by depolymerisation of CMEC having high viscosity and high coating property, by treating with hypohalous acid.

For depolymerisation in homogeneous soln. CMEC is dissolved in aq. alkaline soln. and opt. heated then reacted by using sodium hypochlorite or potassium hypobromite. Reaction proceeds by heating. To obtain CMEC (viscosity 10-20 cps), CMEC is depolymerised by hypochlorite in aq. NaOH soln., heated at 50-80 deg.C for 0.5-2 hrs. Amt. of hypochlorite is 0.05-3.0 mol/CMEC 1 glucose unit.

USE/ADVANTAGE - Prod. has not only low viscosity and high coating property, but c.f. H₂O₂ treated CMEC, has excellent white chromaticity in solid state, is not lowered in transparency and degree of substitution in soln. state. All properties necessary for enteric coating are kept.

0/0

L30 ANSWER 18 OF 24 JAPIO COPYRIGHT 2002 JPO

ACCESSION NUMBER: 1983-089601 JAPIO

TITLE: PREPARATION OF CARBOXYMETHYL-CELLULOSE SODIUM SALT WITH LOW GEL CONTENT

INVENTOR: KUDO MASAKUNI; ITOU KATAYA; IWANE TADAYUKI;

AIKAWA MICHIO

PATENT ASSIGNEE(S): SANYO KOKUSAKU PULP CO LTD, JP (CO 000234)

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 58089601	A	19830528	Showa	(3) C08B011-12

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1981-187704 19811125

ORIGINAL: JP56187704 Showa

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 181, Vol. 7, No. 1851, P. 62 (19830813)

AN 1983-089601 JAPIO

AB PURPOSE: To obtain titled carboxymethylcellulose sodium salt of

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low viscosity, suitable for surface sizing agents for paper manufacturing, by the use of a specific proportion of a water-containing organic solvent to the raw material cellulose and by carrying out a mercerization with the addition of methanol and **hydrogen peroxide**.

CONSTITUTION: A 80-95% isopropanol aqueous solution in an amount 3-10 (pref. 4-6) times that of the raw material cellulose and sodium hydroxide in an amount 2.0-2.5 times that of monochloroacetic acid, and further, methanol and **hydrogen peroxide** in amounts 1-3 times and 0.05-5wt% that of said cellulose, respectively, are incorporated in the reaction system, being subjected to thorough stirring followed by charging the cellulose to carry out a mercerization at 10- 45.degree.C and then an etherification in a usually manner, thus obtaining the objective carboxymethylcellulose sodium salt.

L30 ANSWER 19 OF 24 WPIDS (C) 2002 THOMSON DERWENT DUPLICATE 1
ACCESSION NUMBER: 1982-08088J [50] WPIDS

TITLE: **Low viscosity cellulose**
ether(s) prodn. - by depolymerising high viscosity carboxyalkyl cellulose deriv.
using **hydrogen peroxide** for high whiteness etc..

DERWENT CLASS: A11

PATENT ASSIGNEE(S): (KOJK) KOHJIN CO LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 57180601	A	19821106 (198250)*			9
JP 60051481	B	19851114 (198550)			

PRIORITY APPLN. INFO: JP 1981-64242 19810430

AN 1982-08088J [50] WPIDS

AB JP 57180601 A UPAB: 19930915

Prodn. of low viscous cellulose ethers is effected by depolymerising high viscous carboxyalkylcellulose deriv. in which at least one of hydroxyl being 3 per anhydrous glucose unit is substd. for $-OCnH2nCOOH$ (n is an integer of 1-5) and ether gp. by using **hydrogen peroxide**. The method comprises heating and treating carboxyalkylcellulose deriv. dissolved in 1-4C lower alkanol aq. soln. uniformly together with **hydrogen peroxide** at 60 deg.C - boiling point of the system, and removing alkanol from the reaction soln. to ppte. and separate **low viscous** carboxyalkylcellulose deriv. at 2.5-4.

Pref. lower alkanol is isopropyl alcohol. The reaction soln. is concd. so that wt. ratio of isopropyl alcohol/water in the system becomes 65/35-53/47 and concn. of solid matter of **low viscous** carboxyalkylcellulose deriv. becomes 20-30 wt.%.

Granular or needle-shaped **cellulose** ethers of excellent quality and whiteness degree are **produced**.

L30 ANSWER 20 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1981-26196D [15] WPIDS

09/856545

TITLE: **Low viscosity** nitrocellulose
compsn. for use in urethane paints - obtd. by
dissolving nitrocellulose in organic solvent inert
to isocyanate(s), and depolymerising the
nitrocellulose using **hydrogen**
peroxide.
DERWENT CLASS: A11 G02
PATENT ASSIGNEE(S): (ASAHI) ASAHI CHEM IND CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG
JP 56016535	A 19810217 (198115)*			

PRIORITY APPLN. INFO: JP 1979-91629 19790720

AN 1981-26196D [15] WPIDS

AB JP 56016535 A UPAB: 19930915

Dope-like nitrocellulose compsn. (I) comprises super **low**
viscosity nitrocellulose and an organic solvent
(II) inert to isocyanate. (I) is produced by dissolving
(1) nitrocellulose prod. wetted with alcohols or
water in (2) (II) distilling off the wetting agent and a portion of
the organic solvent. The soln. is then heated and depolymerised in
the presence of H₂O₂. Alternatively the alcohol and a part
of the solvent may be distilled off after the depolymerisation. The
amt. of H₂O₂ used is 0.5-20 wt.% w.r.t. the nitrocellulose
soln.

Depolymerisation of nitrocellulose soln. is easily accelerated.
The **nitrocellulose** has a desired viscosity and is easily
produced in high yield.

L30 ANSWER 21 OF 24 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1981-20300D [12] WPIDS

TITLE: **Low viscosity** type

nitrocellulose soln. prodn. - by
dissolving prod. wetted with alcohol(s)
and/or water in organic solvent and heating, in
presence of **hydrogen peroxide**.

DERWENT CLASS: A11

PATENT ASSIGNEE(S): (ASAHI) ASAHI CHEM IND CO LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG
JP 56008401	A 19810128 (198112)*			

PRIORITY APPLN. INFO: JP 1979-83528 19790703

AN 1981-20300D [12] WPIDS

AB JP 56008401 A UPAB: 19930915

The nitrocellulose of viscosity index L1/8-L1/2 and H1/10-H20 is
pref. used. The alcohols include, e.g. ethyl, alcohol, isopropyl
alcohol and n-butyl alcohol. The mixing ratio of

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nitrocellulose prod. and organic solvent is determined so that the soln. **prepd.** has a viscosity of below 50,000cps. Therefore the amt. of nitrocellulose contained in nitrocellulose soln. is 50-5wt.%. Organic solvent includes pref. ethyl acetate, propyl acetate, MEK, methyl alcohol. **Hydrogen peroxide** soln. contg. 35 wt.% of **hydrogen peroxide** is pref. used. The amt. of the **hydrogen peroxide** soln. used is pref. below 30wt.% of the nitrocellulose contained in the nitrocellulose soln.

Light colour dope type **nitrocellulose** is produced in high yield.

L30 ANSWER 22 OF 24 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1980-70356C [40] WPIDS
TITLE: Mfg. low viscosity CMC - by dissolving high viscosity CMC in aq. soln. of alkanol, heating with **hydrogen peroxide**, etc..
DERWENT CLASS: A11
PATENT ASSIGNEE(S): (KOJK) KOHJIN CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 55108401	A	19800820	(198040)*		
JP 59041643	B	19841008	(198444)		

PRIORITY APPLN. INFO: JP 1979-15487 19790215; JP 1979-16100
19790216
AN 1980-70356C [40] WPIDS
AB JP 55108401 A UPAB: 19930902
High viscosity carboxymethylcellulose is dissolved in an aq. soln. of 1-4C alkanol and the soln. contg. 5-50 wt.% of the cellulose is heated with H₂O₂ at a temp. from 60 degrees C to the boiling pt. of the system to depolymerise the cellulose deriv. to produce low viscosity CMC which may be sepd. by the pptn. after the removal of alkanol by distilling the reaction mixt. and optionally adding 0.1-3 wt.% of water portionwise or in a portion into the reaction mixt. before or during the distn. The wt. ratio of alkanol to water after the addn. of H₂O₂ is 95:5 - 70:30. H₂O₂ is added in an amt. of 0.1-50 wt.% as a 30-50wt.% aq. soln. based on the amt. of dried cellulose deriv.
H₂O₂ acts not only to depolymerise, but also to bleach and clarify the depolymerised prod. The depolymerisation is controlled by checking the viscosity of reaction mixt.

L30 ANSWER 23 OF 24 JAPIO COPYRIGHT 2002 JPO
ACCESSION NUMBER: 2000-119303 JAPIO
TITLE: PRODUCTION OF CARBOXYMETHYL CELLULOSE ALKALI SALT
INVENTOR: SATO KEIICHI; FURUKAWA MASAKO
PATENT ASSIGNEE(S): DAI ICHI KOGYO SEIYAKU CO LTD)
PATENT INFORMATION:

09/856545

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2000119303A		20000425	Heisei	C08B011-12

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1998-298858 19981020
ORIGINAL: JP10298858 Heisei
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000

AN 2000-119303 JAPIO

AB PROBLEM TO BE SOLVED: To obtain a carboxymethyl cellulose salt for providing an aqueous solution of a carboxymethyl cellulose alkali salt having **low viscosity** and excellent fluidity.

SOLUTION: In this method for **producing** a carboxymethyl cellulose alkali salt by making a raw material cellulose into an alkali cellulose and etherifying the alkali cellulose with an etherifying agent, **hydrogen peroxide** and(or) a **hydrogen peroxide** salt is added together with the etherifying agent to the reaction system to **produce** the carboxymethyl cellulose alkali salt.

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L30 ANSWER 24 OF 24 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1968-73457P [00] WPIDS

TITLE: **Low viscosity water-**
sol cellulose ethers by degrading.

DERWENT CLASS: A00

PATENT ASSIGNEE(S): (KALL) KALLE AG

COUNTRY COUNT: 7

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
NL 6606972	A		(196800)*		
BE 681669	A		(196801)		
DE 1543116	A		(196801)		
FR 1481493	A		(196801)		
GB 1139637	A		(196801)		
JP 45000678	B		(197004)		
CA 839258	A		(197016)		

PRIORITY APPLN. INFO: DE 1965-K506264 19650529

AN 1968-73457P [00] WPIDS

AB NL 6606972 A UPAB: 19930831

Cellulose ethers which dissolve in water to give **low viscosity**

solns. are **prepared** from cellulose ethers of the **high viscosity**

type by (a) mixing the **high viscosity** cellulose ether with an

aqueous soln. of **hydrogen peroxide**, the amount

of H₂O₂ being 0.1

- 10% wt. (on wt. of dry solids), and the amount of H₂O not

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exceeding 75% wt. (on total wt.), and (b) drying the mixture at 100-250 deg.C until the H₂O₂ is entirely, or almost entirely

consumed. The process is pref. carried out at pH 9-11, and the mixture may be granulated before drying. The process may be operated continuously.

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